

1911

C 199

GARVER

History of Dairying in Illinois

Agriculture

B. S.

1911



UNIVERSITY OF ILLINOIS  
LIBRARY

Class

1911

Book

G199

Volume

RARE BOOK ROOM









**HISTORY OF DAIRYING IN ILLINOIS**

438  
37  
24/2

BY

**EARL GARVER**

---

**THESIS**

FOR THE

**DEGREE OF BACHELOR OF SCIENCE**

IN

**AGRICULTURE**

---

**COLLEGE OF AGRICULTURE**

**UNIVERSITY OF ILLINOIS**

**1911**



Introduction.

Prior to 1835 but few white people had made settlement in Illinois. Long before this white men had visited Illinois, but they were only transients. About 1835 Illinois began to settle rapidly by Eastern people. Cows soon increased greatly in number and butter and cheese was made in small quantities but not enough for home consumption, the balance being shipped from Ohio and New York.

The French who settled in the southern part of the state scarcely ever troubled themselves with milking cows but turned the cows out with the other cattle and made little or no butter. "The present price of butter", says Wood in 1810, "is 12 1/2 cents, but during the winter it is 25 cents and is difficult to be procured. "Cows in general", says J. M. Peck in 1831, "do not produce the same amount of milk nor so rich a quality as in New England".

Cheese was made by many families, especially in the counties bordering on the Illinois River. A given quantity of milk would not make as much curd in the warm weather as in New England. Good cheese sold for 8 to 10 cents, and found a ready market in St. Louis.

Almost from the start the northeastern portion of the state took the lead in dairy products.

In the early part of the century New York was the great cereal producing state. But by and by Ohio, Indiana, Michigan, Wisconsin and Illinois sent forward their productions in this line and New York was forced to abandon their production and turned her attention to the dairy, with a firm belief that the western





states could never compete with them in this industry.

In the early settlement of the country the attention of the farmer was entirely devoted to grain raising. Wheat was cash and the only product of the farm that could be sold for ready money, and well did the virgin soil of Illinois repay the pioneer. Constant cropping with grain began to tell upon the soil, and as time passed the crops became lighter each succeeding year, while it became apparent that raising wheat did not pay, and many began to believe that farming in Northern Illinois did not and never would pay.

During all this time up to about 1850, but little attention had been paid to dairying. Buttermaking was one of the household duties of the farmer's family, to supply their own wants, and the excess was exchange at the store for what was termed store pay. Having generally but very few conveniences for properly caring for the milk, and as the store keeper paid a uniform price for butter regardless of quality, there was but little inducement held out to the buttermaker to provide better accommodations for care of dairy products or take greater pains to make a superior article. This state of things brought to the country store butter of every hue and variety. It was all packed together and shipped East and sold as Western butter.

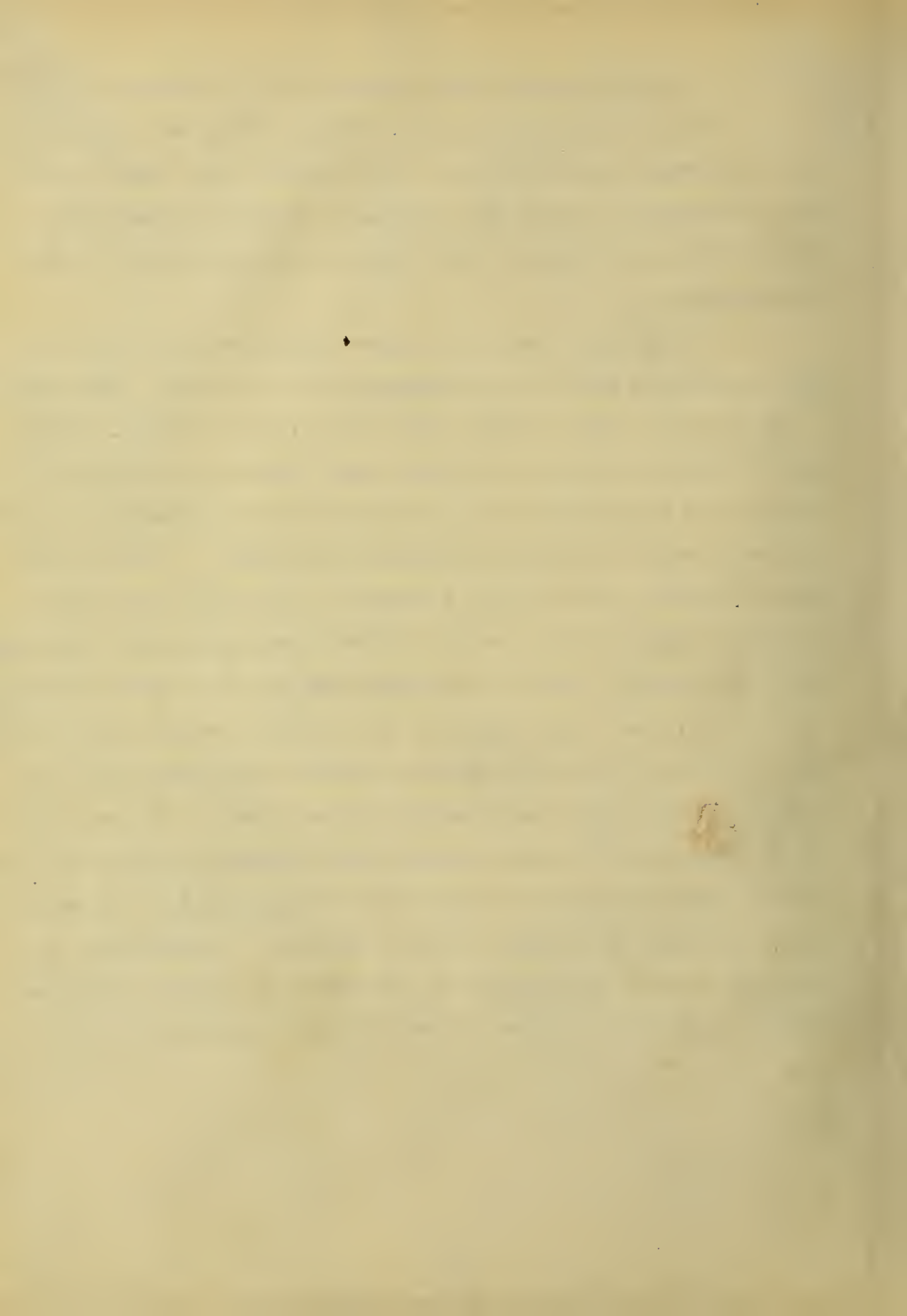
Thus the character of the Western dairy products was established - the name Western indicating a very inferior grade in the Eastern markets and it took a long time on the part of the Illinois dairymen to remove the impression from the minds of Eastern dealers, that Illinois could produce butter and cheese equal to that of the Eastern states.





In the year 1851 the prospects of the farmers of Northern Illinois was gloomy indeed. Grain raising was unprofitable and the farmers asked each other the question what shall we do? Many endeavored to solve the problem by setting out and going farther West realizing for their farms hardly the cost of their improvements.

About this time P. H. Smith living two miles east of Elgin conceived the idea of shipping milk to Chicago. He bought a few cows and began sending milk to the old City Hotel. This was the first attempt at exclusive dairy farming in Illinois. Chicago had been shocked by an exposure in the newspapers of the manner in which the city was furnished with milk - termed sweet milk- produced from cows fed and kept in the distilleries and breweries, and eagerly accepted the sweet wholesome milk from the Fox River valley. Soon his neighbors saw the profitable business he was doing and began shipping milk in the same way, and for the next ten years farm after farm was stocked with cows until the supply exceeded the demand and the prices began to recede to so low a point that it became apparent that something had to be done or the dairy business would also become unprofitable. It seemed useless to make it up into butter or cheese. The miserable reputation Western dairy products had earned in the East and even at home precluded any idea of profit from that source.





City Milk.

In 1852 Phineas H. Smith, who lived on the farm of Dr. Joseph Tefft, two miles east of Elgin conceived the idea of shipping milk to Chicago. On Feb. 12th he shipped his first can of milk, sending it to the old City Hotel. This was the first Attempt at exclusive dairy farming in Illinois. Little did Mr. Smith realize as he drove his ox team to the Chicago and Northwestern station with a single eight-gallon can of milk that he would live to see the day when Chicago was receiving eighteen thousand such cans of milk per day. But such was the case. Mr. Smith added rapidly to his dairy. but the demand exceeded his ability to supply; so his neighbors began shipping milk in the same way, and for the next ten years farm after farm was stocked with cows until the supply exceeded the demand, and prices began to recede to so low a point that something had to be done with the excess of milk. Soon many started to make cheese so that the city milk business again became profitable.

In 1877 the Chicago Journal published the following article on the milk supply of the Fox River Valley:-

"The item of milk for daily consumption in a city like Chicago is something enormous. This supply must come from the rural districts, and within a limited range, as it is not found desirable to transport the fluid too great a distance. Coming pure from the farms, it might become butter if indulged with too long a ride. The great bulk of the supply for Chicago comes from Cook, DuPage, Kane and McHenry counties, the famous Fox River Valley furnishing three fourths. Throughout these counties are hundreds of splendid farms entirely devoted to dairying, and the





milk is either shipped to Chicago per rail or sold to the numerous factories where it is manufactured into butter and cheese. ✓

The milk is brought to Chicago in cans holding an average of eight gallons each, strongly made, the can and contents weighing about eighty pounds.

The milk being thoroughly cooled before it is placed in the cars, but little of it is injured in transit.

Below is presented the figures of shipments from various towns to Chicago upon three of our railroad lines.

The Chicago and Northwestern is the largest shipper, as its lines run through the heart of the milk district. Mr. Schenck, the freight auditor, kindly furnished the shipments from each station on his line for the past five years, and the aggregate presented is enormous, showing each year a constant and regular increase.

<u>Wisconsin Division.</u>		
Towns	Gallons, 1877.	Total in 5 years.
Arlington heights	280,740	1,380,518
Barrington	373,040	1,895,596
Canfield	223,680	135,624
Cary	74,640	407,088
Crystal Lake	47,280	229,120
County Line	9,228	52,712
Desplaines	233,400	1,631,040
Park Ridge		232
Palatine	88,988	520,864
Plank Road	8,000	26,196
Ridgefield	150,496	643,640
Woodstock	65,512	354,120

<u>Galena Division.</u>		
Algonquin	444,000	2,301,920
Blackberry	86,000	294,240
Clintonville	21,960	182,833
Creston		408
Dundee	989,760	4,985,376
Elgin	21,056	206,536
Elmhurst	52,400	380,000
Geneva		7,848
Gilberts	486,640	2,543,332
Huntley	150,800	586,656



Junction		26,616
Kishwaukee	12,080	17,520
La Fox	74,560	211,568
Lodi		1,920
Lombard	70,688	401,104
Maywood.	28,400	93 93,352
Wheaton	10,800	40,728
Winfield	19,576	109,528
Wayne	98,800	760,100
Total	3,987,324	20,698,694

A reference to the above table will show that Dundee and Algonquin have in the last five years furnished nearly one-third of the milk to Chicago by the Chicago and Northwestern Railroad, and why the milk from those towns should be distributed under the title of "Elgin Dairy", is one of the mysteries. Elgin ships but little milk, most of the product of that locality being required by the condensing company and the several butter and cheese factories. The scheme is a cheap steal upon communities which deserve credit and are entitled to it.

Mr. Henry Starring, general baggage agent of the Chicago and Burlington railroad furnishes the following table of receipts of milk upon that road for the year 1877:

Towns	Gallons
Bristol	912
Fox Station	8,344
Downer's Grove	34,792
Hinsdale	47,872
Lacton	87,968
Lisle	257,560
Montgomery	16,941
Naperville	98,736
Oswego	5,904
Riverside	38,424
West Lyons	169,560
Western Springs	47,672
Yorkville	10,552
Total	825,240

Mr. George H. Daniels, general passenger agent of the Chicago and Pacific railroad, reports that road as bringing to





Chicago in the year 1877 the following amounts:

Bensenville	280,432
Bartlett	100,152
Dumser	86,200
Elgin	432
Hampshire	103,600
Hammonds	200
Itasca	17,200
Manheim	67,600
Meacham	59,336
Ontarioville	128,800
Pingree Grove	123,904
Roselle	63,344
Spaulding	88,872
Salt Creek	22,840
Starks	61,080
Total	<u>1,204,312</u>

The cooling beverage known as buttermilk"came to town" upon that road to the extent of 45,120 gallons.

This represents the shipments, upon the three leading roads, of milk to the city during the year."

This branch of dairying kept increasing, and in 1883 there was shipped to Chicago over the

C and N W RR.	952,902	cans of milk
C M and St. P. RR.	272,735	" " "
C B and Q RR.	192,737	" " "
C and R I RR.	113,774	" " "
I C RR.	55,000	" " "

By 1893 Chicago required eighteen thousand eight-gallon cans of milk to supply the demand. Little attention was paid to the sanitary conditions under which the milk was produced until about 1900. Since that time there has been a general improvement in the milk sent to Chicago. Some of the large dairy firms have greatly improved conditions by bottling the milk in the country.

In 1900 Mr. H. B. Gurler of De Kalb, who was then





producing certified milk, sent some to the Paris Exposition. At the meeting of the Illinois Dairymen's Association he gave the following description of producing and sending the milk:

"Last August I got a letter from abroad requesting me to send some milk. The idea of me sending milk across the Atlantic with any expectation of getting it there sweet. I put it up the evening of August 29th, milk taken without any especial care, took the milk as it came in for the milk bottles, not knowing what cows it came from. When I got ready I took milk right from those bottling machines and put them into cases and they went to cooling. This is where the extra work came in, cooling of the milk as rapidly as possible. The next morning it was packed and shipped by express to New York; then it was put on board a vessel in the refrigerator and started for Paris, reaching there Sept. 15th. The professor wrote me that the milk reached there Sept. 15th in fine condition. They found it acid on the 19th, but just when between the 15th and the 19th it turned I don't know. Well now that milk was not pasteurized, sterilized, or embalmed. I just want to show you what can be done with milk by the proper sanitary conditions and cooling it rapidly, as soon as possible after milking."



### Chicago Milk Prices for Twelve Years.

This table represents the Chicago market price paid for milk to the producer from 1898, to 1909. Price per eight-gallon can, delivered on the Chicago platform, freight (16 1/2 cents) prepaid:

Month	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Jan.	.80	1.00	1.00	1.10	1.10	1.15	1.15	1.15	1.10	1.20	1.45	1.30
Feb.	.75	.80	1.00	1.10	1.10	1.15	1.15	1.10	1.10	1.15	1.45	1.30
March	.70	.80	.90	.95	1.00	1.10	1.15	1.10	1.05	1.10	1.40	1.25
April	.70	.80	.90	.90	.95	1.05	1.05	1.00	1.05	1.10	1.35	1.25
May	.65	.65	.75	.75	.75	.80	.75	.80	.80	.90	.95	1.00
June	.65	.65	.75	.75	.75	.80	.75	.80	.80	.85	.90	.90
July	.70	.75	.85	.85	.85	.90	.85	.85	.90	1.00	1.00	1.00
August	.75	.85	.85	.90	.90	1.00	.85	.85	.90	1.05	1.10	1.10
Sept.	.85	.90	.95	.95	.95	1.00	.95	.95	1.00	1.10	1.10	1.15
Oct.	.85	.90	.95	.95	.95	1.00	.95	.95	1.00	1.10	1.15	1.15
Nov.	1.00	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.20	1.45	1.35	1.35
Dec.	1.00	1.10	1.15	1.15	1.15	1.15	1.15	1.15	1.20	1.45	1.35	1.35





The Cheese Industry,

The character of western dairy products was early established in the east, the name western indicating a very inferior grade in the eastern markets. About the year 1860 so many had engaged in shipping milk to Chicago that the business was found to be largely overdone and many began to look for other outlets. It seemed useless to make butter and cheese. The miserable reputation western dairy products had earned in the east and even at home precluded any idea of profit from that source. But despite this unfavorable prospect there were a few men who believed that Illinois could produce as good an article of butter and cheese as any of the most favored of the Eastern States and they determined to make a trial.

Some commenced the making of cheese at home, among whom were Frank Webster, C. W. Gould, Kin Larkin, P. H. Smith, and I. H. Wanzer. Their implements were rude. They found a market in Elgin and the adjoining towns for their goods, occasionally taking a load to Chicago loose in wagons, for they had no boxes in which to ship.

The following from an address by J. H. Wanzer, one of our pioneer dairymen, relates the early start of the cheese industry in Illinois.

"We remember our first experiment in making cheese. We had, on a June morning in 1860, taken our milk to Elgin, but, finding the previous day's milk had been returned with notice that they were so flooded with milk that they could not use any more of ours for some time to come. We took the previous day's milk into the wagon with that just brought and started for home. Calling at the grocery of James Knott, purchasing a large wash tub,





and a little farther on to the meat market of George Roberts, and bought a calf's rennet, and upon our arrival home under the directions of mother Herrick made our first cheese, putting it to press under a temporarily constructed press and to curing in one of the rooms of the house. We soon partitioned off a part of the woodshed and obtained a larger wooden tub, with a smaller tin tub to go inside of the wooden one, heating our milk and whey by warming water on the stove and turning it between the two tubs. Thus we worked for three seasons, curing our cheese in a part of our house. In 1863 Father Herrick built a small cheese factory 16 by 40 feet, and purchased a cheese vat and screw presses from H. A. Rowe, Hudson, Ohio. In this small factory we made the cheese from the milk of our own cows, which had increased from 15 to 40 cows, and as the supply far exceeded the milk demand of Chicago, we commenced to take in milk from our neighbors, after running up our vat full three times a day. We have always carried the impression that this little cheese factory 16 by 40 feet was the first west of Chicago where milk was received and made up on the dividend plan. Thus we labored on releasing the overburdened milk market, taking our cheese loose in wagons principally to Chicago, in warm weather going all the way by night. We remember reaching South Water Street one morning in the summer of '63. Meeting Mike Daris, who got upon our wagon, lifting the sheet that kept the dust off our cheese, offering us 21 cents per pound for the load, we closed a bargain at 22 cents, and in less than one hour had unloaded and received our pay, \$462.00, reaching home in time to do our milking that night. In 1865 Mr. Hill built and operated a cheese factory at Bloomingdale. In the same year the Illinois Milk



Condensing Company was organized at Elgin, and the old Dexter was bought and fitted up for the condensing of milk. This for a time relieved the milk market, but only stimulated the production still more, and to create a want for this overproduction, the condensing company enlarged their works, putting in cheese vats and presses for the manufacture of cheese. Mr. Borden came to our place in October, 1865, and bought our milk for one year at 12 cents per gallon, and hired us for the same term to superintend the manufacture of their cheese at \$80 per month, allowing us time at home night and morning to help do our own milking. We took the milk to the factory as we went to work. During the year we manufactured 240,000 pounds of cheese, most of it going to the house of Don Moran & Co. In the spring of 1866, Henry Sherman and Frank Webster built a small cheese factory two miles west of Elgin, near the residence of J. R. McLean. Also in the same season Ira Albro built one at Wayne; R. R. Stone & Co. built one at Richmond, D. F. Wood making their cheese. In the winter of 1866 and 1867, there was a factory built two miles east of Elgin, near the residence of O. B. Jenne, by M. A. Devine, A. D. Gifford, and J. H. Wagner, Mr. Gifford soon retiring from the firm and P. Moran of Chicago, taking his place. In the spring of 1867 C. W. Gould built his Home factory. There was also one built at Sycamore by O. K. Waite, also one about this time by Robert and William Stewart and one by H. W. Mead of Hebron. The following year many factories were built. Among them we might name factory (B) five miles east of Elgin, another in the same township by Gould and Hammond, and one in Udina.

About this time commenced our real struggle for life





in the dairy world. Our home markets were supplied and a different article must be made to meet the wants of the export trade. Repeated failures had been made by those coming from the large cheese districts of the east. We began to realize that our water, grasses, and climate imparted different qualities to our milk, and a manipulating process must be worked out to meet the peculiarities of our milk and markets. We must cut loose from the east and secure success through our own efforts. The east were lavish with their predictions concerning our ultimate failure in the West, and but for the stamina of the pioneers of associated dairying in the West, we might today be struggling in a half developed state instead of being the bright and shining star of all the world, as we are. How eagerly we caught at ideas that would lead to the unraveling of the tangled yarn. How glad to impart one to the other any points gained in the struggle for existence. I never shall forget the hearing of a rap upon my door at midnight in July, 1867. Upon opening I found O. K. Waite, all the way from Sycamore, 22 miles, after making his cheese, to get light and give light. The wee hours of the morning found us in serious consultation over this matter of adapting our methods of manufacture to our milk and markets, he driving back to make his cheese. I remember at another time Robert Stewart, on his way to Chicago, stopped over a train and walked out two miles to communicate to me some point he had gained in cheese-making. Robert Stewart was always in a hurry to do his brother manufacturer good."

Dairy herds were rapidly increasing and the coöperative system was soon inaugurated. Instead of looking for a purchase,



the purchaser came to the manufacturer. The Elgin Board of Trade was established in 1872, where purchaser could meet on middle ground.

The rivalry between the factories as to the price paid for milk to take off a little cream. The next man would dip off a little more, and so on. They added the buttermilk, cooked very slightly, salted but little and hurried up the curing as fast as possible.

The dealer soon began to complain, and there was no longer the great demand for Illinois cheese. The reputation of Illinois cheese was gone. It was useless to try to regain it. In 1865 Illinois had 17 cheese factories, which had increased to 46 in 1870. By 1890 many factories were engaged in the manufacture of filled cheese which increased rapidly until about 1896, when a law was passed prohibiting filled cheese. Within a few months Illinois dropped almost to the bottom as a cheese producing state. Today there are only about fifteen factories making cheese.

L





# Average Yearly Price Of Cheese In Illinois.

-15-





Cheese Factories in Illinois, 1870.

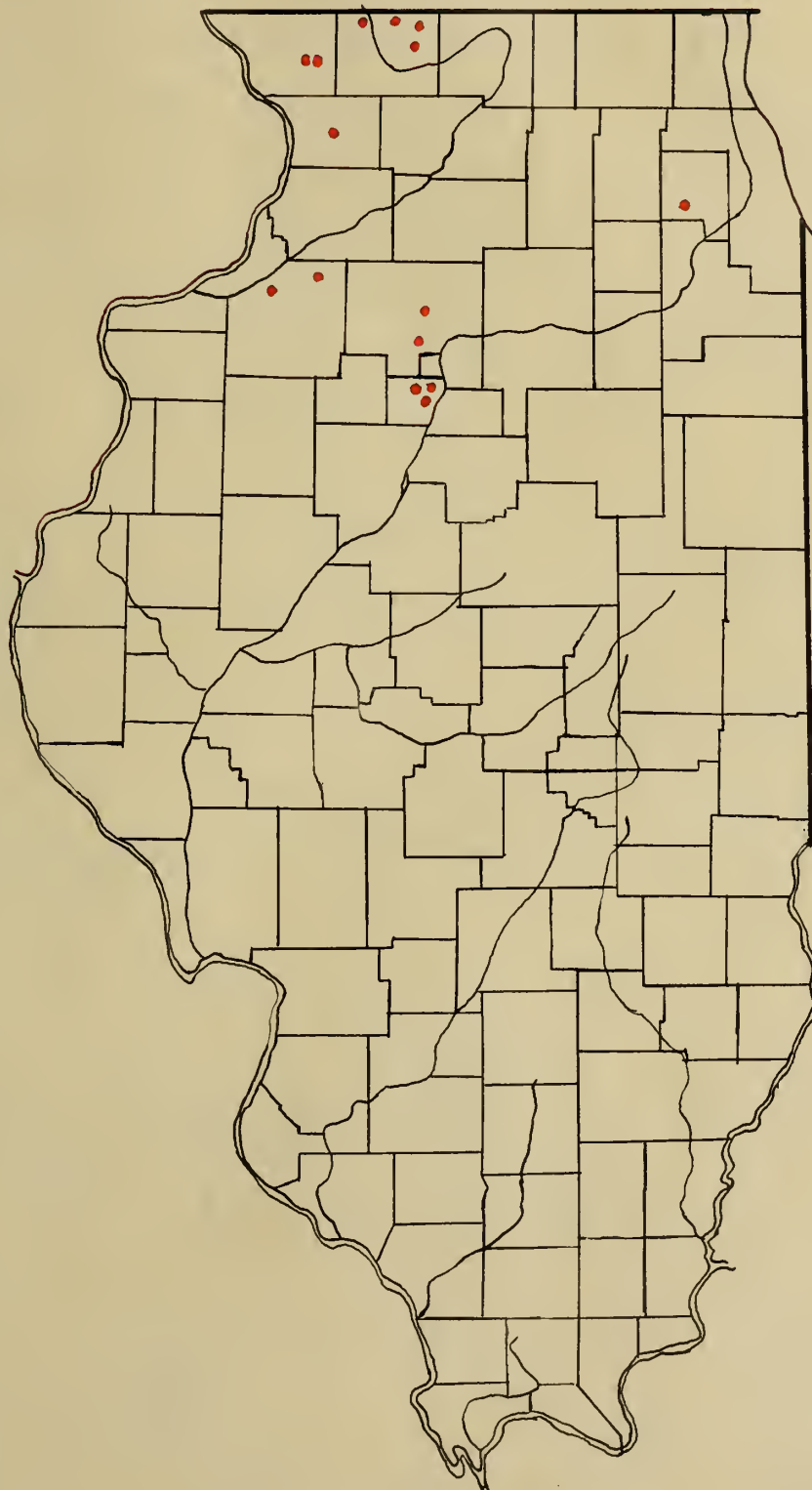
Red dots indicate those built before 1867.







Cheese Factories in Illinois, 1910.





Cheese Factories in Illinois, 1867.

Hainesville factory, Hainesville, Lake Co.				
Burchard's	do	Sumner,	Kankakee Co.	
Wanzer & Co.'s	do	Herman,	Kane Co.	
Richmond	do	Richmond,	McHenry Co.	800
Hebron	do	Greenwood	do	500
Huntley Grove	do	Huntley	do	250
Marengo	do	Marengo	do	300
Greenwood	do	Woodstock	do	300
Union	do		do	250
Woodstock	do	Woodstock		
Riley	do		do	
Buena Vista	do	Huntley	do	350
Spring Grove	do	Richmond	do	300
Ringwood	do			
Garden Prairie	do			
Mead's	do	Mead's Station		
Elgin Milk Condensing Company, Elgin.				





Illinois.

McHenry County.

From the Woodstock Sentinel of December 26, 1867.

We have not the data at hand from which to give an approximate estimate of what has been made in the State, nor even to state the number of factories in operation. We wish to show what has been done in our county of McHenry, giving number and description of factories, how operated and supported, capacity, and gross production up to present time.

Previous to last year there was not a factory in the county. This year there were eight in operation.

We think that we can safely say that there were made this year 150,000 pounds in addition to the amount exhibited by the factories, making over three-quarters of a million pounds manufactured in the county.

---

Richmond Factory.- This factory, located a short distance west of the village of Richmond, was built in the spring of 1886 by Dr. R. R. Stone (present owner) and W. A. McConnell. The building is a frame, 112 feet long, 30 feet wide, and two stories high, with an addition at one end 22 by 16 feet, two stories, the lower part of which is used for boiler and pressing rooms and the upper for making boxes. Water is obtained from a spring. The milk in the vats is heated by steam, which is obtained from a six-horse power steam boiler.

The first cheese was made the 18th of May, 1866. The season closed about the middle of November. Milk was used from about four hundred cows. In 1867 about sixty farmers brought milk



to his factory, the one farthest from it living six and a half miles. He commenced making on the 15th of April, and stopped November 14th wanting one day of seven months. The greatest amount made in one day was July 18th, 27 cheese, weighing 1,588 pounds, and requiring 14,414 pounds of milk. This was at a time of year when milk made about the poorest yield of the season. The largest amount made in one month was in July, 43,008 pounds of cured cheese. The number of cheese made during the season was 3,617, weighing (cured) 184,471 pounds, requiring 1,830,424 pounds of milk and averaging about 51 pounds to the cheese. The last month it took about 6 1/2 pounds of milk to make one pound of cheese (green). The largest price received was 17 1/3 cents, in May; the lowest 13 cents, in September. Number of cows, 800.

---

Hebron Factory.- In the spring of 1886 R. W. & W. H. Stewart erected, three and a half miles north of Greenwood, in the town of Hebron, a frame building, 30 by 55 feet, two stories high, and commenced making cheese about the 10th of May. The factory was run until the 10th of December, during which time they used about 500,000 pounds of milk and made 52,000 pounds of cheese, which was sold at an average of 13 cents. This season they raised the building, put under a basement of brick, and built an addition in rear, 16 by 18 feet, two stories high, for press and slush rooms, room for washing cans, &c. Also an addition, 20 by 28 feet, three stories high, basement brick, for engine room, shop, mill for grinding feed, upper rooms wood, for storage of grain and feed, whey tank, &c. The heater was discarded and a four-horse power steam engine introduced. The curd was cooked by steam.





An additional vat was used. There is room for four vats, with a capacity of from 16,000 to 18,000 pounds of milk per day. This season they used the milk from between 450 and 500 cows, of which number the Stewarts were owners of 150. The season commenced on the tenth of May. About a million pounds of milk were used, and 112,000 pounds of cheese made. The cheese sold average 13 1/2 cents at the factory. The highest amount of milk received in one day was 8,000 pounds.

We will here remark, which is applicable to all the factories, that the cheese was principally made at a stipulated price per pound - generally 2 1/2 or 3 cents - the proprietors furnishing the materials, making and storing for a specified time, when they would sell the cheese on commission or turn it over to the men furnishing the milk.

---

Huntley Factory, at Huntley, managed by Messrs. Blanchard and Woodworth.- Commenced operations on the 20th of ~~April~~ April, receiving that day 1,098 pounds of milk and making 117 pounds of cheese. The season closed the 21st of September, when 108 pounds were made. The largest amount of cheese in one day was 790 pounds; of milk 7054 pounds. The best month was July, 21,868 pounds of cheese, 194,666 pounds of milk. Total for the season, 64,058 pounds of cheese, 597,905 pounds of milk. Average weight of green cheese, 60 pounds; cured, 55 pounds. The proprietors furnished materials and boxes, and charged 3 cents a pound for making. Owners to remove within forty days. The sales averaged about 13 cents at the factory.



Marengo Factory, owned by Sperry and Patrick.- Commenced making cheese on the 20th day of May. The building is 24 by 74 feet, two stories high, has two curing rooms, which will hold about 800 cheese, and a manufacturing room that will accommodate three 500 gallon vats. Water is supplied by a well near the building. The curd is cooked by steam. Only two vats were used the past season. The amount of milk received the first day was 851 pounds; last day, 1,581 pounds; largest amount in one day, 5,916 pounds; largest amount of cheese in one day, 645 pounds. We failed to get the amount of milk used and cheese made during the season. About 300 cows furnished the milk.

---

Greenwood Factory.- Last spring Messrs. A. C. Thompson and George Abbot erected a factory four miles northeast of Woodstock, in the town of Greenwood. The building is frame, 3 stories high, has three curing rooms with a capacity of from 100,000 to 150,000 pounds. Two vats were in use which hold a little over 4,000 pounds of milk each. Water is obtained from a spring. The factory commenced operations on the 4th of June and ran until the 5th of October, four months, during which time 542,355 pounds of milk were received, and 54,236 pounds of cheese made. The first day they used 1,614 pounds of milk, which made 161 pounds of cheese. Last day, 2,145 pounds of milk, 214 pounds of cheese. The largest receipt of milk in one day was 6,800 pounds; of cheese made, 680 pounds. Sales were made at an average price of 14 1/2 cents.

---

Union Factory, Mr. J. E. Marsh, proprietor.- Two vats were used this season having a capacity of 4,000 pounds each.





They were made at Utica, New York, and are known as the "Oneida Vat". The season commenced on the 27th of May, and lasted 120 days, closing the 27th day of September. The total number of pounds of milk received was 429,000; amount of cheese made was 43,000 pounds, weighed October 10th; 112 pounds were made the first day. The greatest number of cheese made in one day was 10, averaging 60 pounds.

---

Woodstock Factory.- Commence making cheese on the 27th of May, and closed the 28th of September. 860 pounds of milk were received and 96 pounds of cheese made the first day. The largest quantity of milk received in one day was 3026 pounds; largest amount of cheese made, 336 pounds. Total amount of milk for the season, 243,000 pounds; cheese 22,223 pounds. Sales averaged 14 3/4 cents. Cheese made at rates same as other factories. Proprietor, G. DeClerq, of Chicago; Foreman, J. Eddy.

---

Riley Factory.- This factory is located in the township of Riley. Its proprietors are T. B. Merrill, E. Graves, and Leonard Parker. Commenced running May 20th, and closed October 5th. Received 534 pounds of milk the first day, and made 74 pounds of cheese. Amount of cheese for the season, 40,000 pounds. Largest amount of milk in one day, 6,000 pounds; cheese, 575 pounds. The cheese was sold at an average price of 12 1/2 cents.

---

Buena Vista Factory.- This factory is in Kane county, Rutland township, near the county line. It is three miles from the village of Huntley. Commenced making cheese on the 29th day



of April; closed on the 8th of September. First day, 1,137 pounds of milk were used and 120 pounds of cheese made; last day, 3100 pounds of milk and 365 pounds of cheese. Greatest amount of milk in one day, 6,770 pounds; of cheese, 680. Made in the season, 57,300 pounds; amount of milk received, 543,300 pounds. Greatest number of cows 350. The least amount of milk for a pound of cheese during the season, 8 1/4 pounds; greatest, 10 1/2. Most all the cheese was sold at 12 1/2 cents on the 20th of September. The factory is managed by a Director, Mr. Daniel Duff. Its patrons were charged 2 1/2 cents per pound for making and taking care of cheese until sold.

---

New Factories.- Several new factories will be put up next year. Dr. Stone, in company with others will build one at Spring Grove, eight miles east of Richmond. They expect to have the milk from 300 cows, and intend to have accomodations for 500. Another one will be ready for spring operations at Ringwood and still another on Garden Prairie, near the Boone county line. We also hear that A. W. Mead will erect one at Mead's Station.





From the Western Rural (Chicago) of January 25th, 1868.

The annual meeting of the Fox River Dairy Club was held at Elgin, Illinois, January 7th. There was a good attendance, and some interesting discussions held. The dairy business has grown to very considerable magnitude in this region. During the year 1867 there were shipped from Elgin, Gilbert Station and Dundee 560,011 gallons of milk. There was received at five factories in the vicinity, 674,642 gallons, or 1,235,653 gallons in all. The cheese product was 646,583 pounds. The Elgin Milk Condensing Co., in addition to cheese manufacture, consumed 79,540 gallons of milk in the manufacture of condensed milk. The freight paid from the three stations for milk shipped to Chicago was 2 cents per gallon. The total sum paid for freight was \$10,200.22. In round numbers the Buena Vista Factory received 61,000 gallons of milk and made 57,000 pounds of cheese; N. H. Larkin's factory 90,000 gallons of milk, 80,000 pounds of cheese; Hanover factory 180,000 gallons of milk, 172,000 pounds of cheese. Sherman and Webster factory, 115,000 gallons of milk, 106,000 pounds of cheese.



Cheese Factories in Illinois, 1868.

Hainesville	Factory,	Hainesville,	Lake Co.	
Burchard's	do	Sumner,	Kankakee Co.	
Patterson & Mix	do	Momence	do	800
Wm. Keeney's	do	Yellow Head	do	800
W. C. Richard's	do	Momence	do	800
W. A. Clark's	do	Sherburneville	do	200
Wanzer & Co.'s	do	Herman,	Kane Co.	
Richmond Co.	do	Richmond,	McHenry Co.	800
Hebron	do	Greenwood	do	500
Huntley Grove	do	Huntley	do	250
Marengo	do	Marengo	do	300
Greenwood	do	Woodstock	do	300
Union	do	Union	do	250
Woodstock	do	Woodstock	do	
Riley	do	Riley	do	
Buena Vista	do	Huntley	do	350
Spring Grove	do	Richmond	do	300
Ringwood	do			
Garden Prairie	do			
Mead's	do	Mead's Station		
Elgin Milk Condensing Co.,		Elgin.		
Rockton	Factory	Rockton		400
Stuart Bros.	do	Hebron,	McHenry Co.	500
Oneida	do	Rockford		
Belvidere	do	Belvidere,	Boone Co.	
Hale	do	Hale,	Ogle Co.	100





Cheese Factories in Illinois, 1869.

Hainesville	Factory,	Hainesville,	Lake Co.	
Burchard's	do	Sumner,	Kankakee Co.	
Patterson & Mix	do	Momence	do	800
Wm. Keeney's	do	Mantino	do	800
W. C. Richard's	do	Momence	do	100
W. A. Clark's	do	Shurburnville	do	200
Wanzer & Co.'s	do	Herman,	Kane Co.	
Richmond	do	Richmond,	McHenry Co.	800
Abbot & Noyes	do	Greenwood	do	500
Huntley Grove	do	Huntley	do	250
Marengo	do	Marengo	do	300
Greenwood	do	Woodstock	do	300
Marsh & Jackson	do	Union	do	500
Boies	do	Kingston,	De Kalb Co.	200
Sugar Grove	do	Aurora		
Kilbor's	do	Richmond		
Buckland's	do	Ringwood		
Jones's	do	Hebron		
Conn's	do	Hebron		
Woodstock	do	Woodstock,	McHenry Co.	
Riley	do	Riley	do	
Buena Vista	do	Huntley	do	350
Spring Grove	do	Richmond	do	300
Garden Prairie	do	Garden Prairie		
Mead's	do	Hebron		
Milk Condensing Co.	Elgin.			
Rockton	Factory	Rockton		400



Cheese Factories in Illinois, 1869 (cont.) .

Stuart Bros.	Factory	Hebron	McHenry Co.	500
Oneida	do	Rockford		
Belvidere	do	Belvidere,	Boone Co.	
Hale	do	Hale,	Ogle Co.	500



Cheese Factories in Illinois, 1870.

Hainesville	Factory,	Hainesville,	Lake Co.	
Burchard's	do	Sumner,	Kankakee Co.	
Patterson and Mix	do	Momence	do	800
Wm. Keeney's	do	Mantino	do	800
W. C. Richards	do	Momence	do	100
W. A. Clark's	do	Sherburne	do	200
Wanzer & Co.	do	Herman,	Kane Co.	
R. R. Stone's	do	Richmond,	McHenry Co.	800
do	do	Spring Grove		
Thompson & Abbot	do	Greenwood	do	500
Huntley Grove	do	Huntley	do	250
Marengo	do	Marengo	do	300
Greenwood	do	Woodstock	do	300
Marsh & Jackson	do	Union	do	500
Boies	do	Kingston,	DeKalb	200
Sugar Grove	do	Aurora		300
Dunton	do	Dunton		250
Kennicott	do	do		200
Cameron	do	do		200
Perry	do	do		150
Williams	do	do		150
Gould & Hammond	do	Hanover		425
Gould & Hammond	do	Elgin		425
Tuttle's	do	Lodi		350
Barber & Co.	do	Polo		300
Albro & Co.	do	Wayne		600
Winslow	do	Shirland		400





Cheese Factories in Illinois, 1870 (cont.).

Kilbor's	Factory,	Richmond		
Buckland's	do	Ringwood		
Jones'	do	Hebron		
Conn's	do	Hebron		
Woodstock	do	Woodstock, McHenry Co.		
Riley	do	Riley	do	
Buena Vista	do	Huntley	do	350
Spring Grove	do	Richmond	do	300
Garden Prairie	do	Garden Prairie		
Mead's	do	Hebron		300
Milk Condensing Co.,		Elgin		
Rockton	Factory	Rockton		400
Stuart Bros.	do	Hebron, McHenry Co.		500
Oneida	do	Rockford		
Belvidere	do	Belvidere, Boone Co.		
Hale	do	Hale, Ogle Co.		500
Wanzer's	do	Hanover		
do	do	Elgin		
Cameron	do	Northfield		



Dairying in the Northwest.

G. E. Morrow.

Utica, N. Y., January, 1875.

The "Northwest" has an indefinite and widely-varying meaning. A vast extent of country is included as the term is ordinarily used. The Northwest to which I shall mainly refer is but a part of Illinois, about one-fourth of Wisconsin, and parts of Iowa and Minnesota.

Within the easy memory of men not past middle age, the region indicated was comparatively a wilderness. The early settlers who were attracted by the fame of its fertile soil, to be had for the asking, had generally more store of muscle and energy than of money. As in any newly-settled country, the natural effort was to produce that which at least present cost would produce a return in money or means of subsistence. Thus grain-growing became the leading business of the agricultural class in these States. Next came the raising and feeding of cattle and swine. Obviously dairying would not be thought of in the earlier ages of settlement as anything more than a minor industry. The farmers made some butter and sold it to the village groceries. As long ago as 1847 Mr. Town, of Elgin, Ill., made considerable shipments of butter to New York. Some, who had been accustomed to cheese-making in New England or New York, continued the work on a small scale, partly supplying the very limited local demand, but all this was of but small aggregate importance, for, in addition to the causes that would naturally make dairying a subordinate industry in any newly-settled region, there was a very general feeling that nearly all the Northwest





was illy adapted to grazing purposes, and especially unfitted for dairying. The growth of Chicago and other cities built up a considerable local trade in milk, and increased the demand for butter and cheese.

The first cheese factory in the Northwest, of which I have any information, was established near Elgin, Ill., in 1862. The first dairyman's association in the Northwest was also established at Elgin, in 1863. The Illinois and Wisconsin Dairyman's Association was organized in 1867, at which time there were about thirty-five cheese factories in these States. This Association now became the now prosperous and useful Northwestern Dairyman's Association. The Wisconsin State Association was organized in 1872; the Illinois State Association in 1874; the Iowa State Association is being organized at this date. There are also several useful county associations.

While any special interest you may feel in dairying in the Northwest doubtless rests much more in the possibilities of the future than what has been accomplished up to the present time, it is highly gratifying to those more directly interested to be able to look back over a series of years of steady prosperity and steady growth. The dairy products, especially of cheese, do not form a large aggregate, but in comparison with what they were only a few years ago they are large. The territory in which cheese-making is receiving attention is widening year by year and further extending into sections formerly devoted almost wholly to grain growing. It is undoubtedly true that no class of Western farmers of equal number, and possessing no greater capital have been more successful during the past ten years than



have been the dairymen. They have felt the "hard times" less than most farmers. The causes which developed what we call the "farmer's movement" affected them less than their grain-raising neighbors. Naturally, this comparative and actual prosperity has directed the attention of others to dairying, so that there has never been a time when so many are talking and thinking of engaging more or less extensively in milk-production as now.

I have prepared a map to indicate, in a general way, the portions of the States named, in which dairying is at all prominently pursued. In Illinois, most of the northern fourth of the State is included, extending in one place perhaps 150 miles south of the north line. In Wisconsin something more than the southeast quarter is included. As indicating the sections in which a commencement has been made in this State, the northeast quarter of Iowa and the southeast quarter of Minnesota may be named. It will, of course, not be understood that in all this area dairying is prominent. The total cheese product of Iowa or Minnesota is not greater than that of a single county in Illinois, and several counties are necessarily included in each State in which dairying<sup>as yet</sup> receives very little attention.

The cheese products of these four States, in 1874, I estimate at 25,000,000 pounds. In this estimate I have the concurrence of Pres. Faville, of the Northwestern Dairymen's association. Others would perhaps make it higher. Taking into consideration the increased attention given to buttermaking in Illinois, I think 12,000,000 lbs. of cheese for that State would be a fair estimate. Mr. Faville and others place the cheese product in Wisconsin at 12,000,000 lbs. Mr. Eldred, for years engaged in cheese-making in





Iowa, places the number of factories in the State at 40, but they are generally quite small, and he puts the cheese product at from 1,250,000 to 1,500,000 lbs. Minnesota produced less than 1,000,000 lbs.

Elgin, Ill., is the center of the leading dairy district of the Northwest. There are 32 factories, some of them are quite large, within ten miles of that place. The sales at that city, for 1874, aggregated perhaps 3,500,000 lbs. of cheese, and 150,000 lbs. of butter. The Illinois Condensing Factory, at Elgin, the only one in the Northwest, received, in round numbers, 6,800,000 lbs. of milk during the year. McHenry county, Ill., in 1873, produced 1,500,000 lbs. of cheese.

In Wisconsin, Sheboygan county, in 1874, had 28 factories and produced 1,400,000 lbs. of cheese. Kenosha county, although quite small, produced 800,000 lbs. Green and Winnebago counties, in this State, quite largely produced Swiss and Limburgh cheese. These are samples of some of the leading counties.

I do not at all underestimate the disadvantages of the Northwest as a dairy region. First of these I name the lack of dairy education. Most of the farmers of the Northwest know very little of the business; many are prejudiced against it, and reluctant to make so radical a change in their plans as to engage in milk production would require. This lack of experience and knowledge of the business is seriously felt by many who do make dairying prominent in their farming. Again there is a lack of money. The average farmer of the Northwest has not much money. The cost of a herd of cows, the necessary buildings, and the other purchases necessary can ill be afforded by many. Again





the desire or resolution to become a dairy farmer does not of ~~it~~ itself add one to the number of cows, nor the acres in grass; to reserve the latter, especially requires time on the part of the farmer who has hitherto been an almost exclusive grain-grower. The long winters, during which cows must be stabled and fed, are ~~th~~ thought a great obstacle by many. The face of the country generally, is as different as can well be imagined from the typical dairy region. As a rule the thousand hills on which cattle may feed are not to be found, but, instead, there is often level, treeless prairie. Flowing streams and living springs are comparatively rare in a great part of the Northwest. The lands are not, as a body, what are called natural grass-lands. To reach the great markets, the dairy products must be transported a thousand miles or more, and then find a current belief that they are necessarily inferior in quality. Last and greatest of all, perhaps greater than all other difficulties combined, is the liability to severe and long-continue drought. You know something of what drought may do, but I am glad to beleive that you have not practical experience in such droughts as have visited various districts in the Northwest in the last few years. Certainly the East is less liable to severe drought than is much of the West.

In the summer of 1874, for instance, dairymen in portions of Illinois and Wisconsin fed their cows as regularly, and with as much necessity for so doing as now. This is a real, and not an imaginary evil, and one that the dairymen of the Northwest feel deeply.

While all these things exist, there are other considerations which lead to a steadily increasing production of butter



and cheese in the Northwest. First, as nothing succeeds like success, as nothing so compels following or calls out imitation as does success, so the fact that dairymen in the Northwest have succeeded and are succeeding are prosperous and hopeful, commands attention. Low prices for the grain products, complaints of high charges for transportation, especially on bulky farm products, the ravages of the chinch bugs, the general feeling of discontent and desire for change so surprisingly prevalent among Western farmers, have made many feel that a change is important. I have never received so many inquiries as to dairy matters; have never known of so many projected factories as within the past few months. Those already engaged in dairying will continue, and others will engage in it as soon as practicable. Some of those will fail and go out of the business disgusted; most will fairly succeed.

Some of the difficulties would be more easily overcome than would be supposed at first blush. If running streams are wanting, good water can almost everywhere be obtained in wells of moderate depth, and the winds of the broad prairies will pump it as wanted. If not quite as good, this answers a very good purpose. The difficulty of raising good grass has often been overstated. It is astonishing what results have been obtained, even from cows pastured on the wild grass of the prairie. Especially where the land has been cultivated for a few years, grasses of the various kinds, and the clovers grow luxuriantly. Kentucky bluegrass is abundant in much of the dairy region. Timothy and red clover everywhere thrive, and while not the best for milk production, they have answered a good purpose on thousands of farms, and the butter and cheese produced have not been detected as of poor



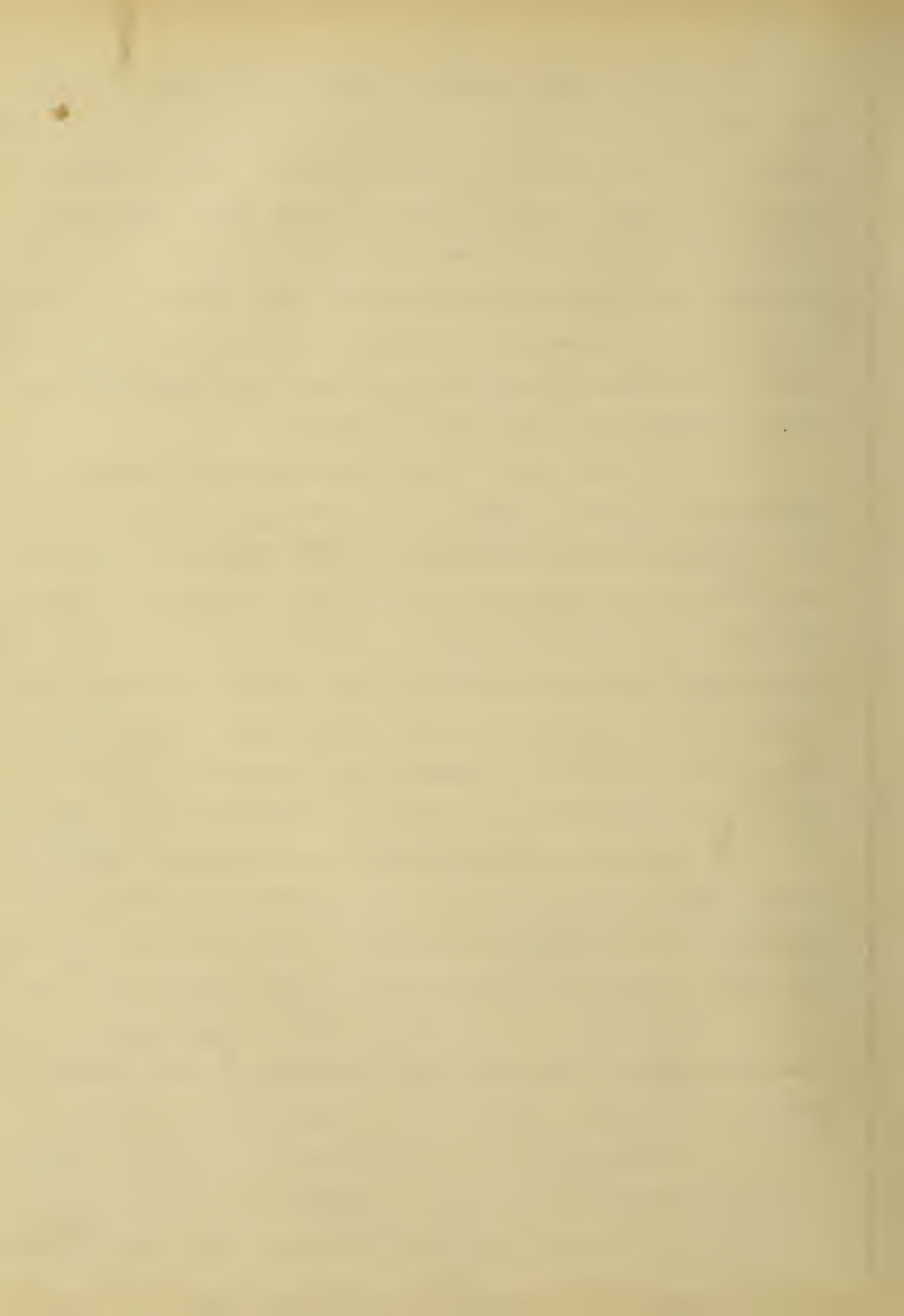


quality. Another point greatly in favor is the great facility with which bountiful crops of grain and winter forage can be produced, on the fertile soil, nearly universal. Again, while the winters are long, the grass springs up with great rapidity in spring, and often remains fresh and green late in the fall. For two years past especially, I have noted that, for at least three weeks after all the snow had disappeared in central Wisconsin in spring, the reports from Utica and Little Falls showed that the dairymen brought in their cheese in sleighs.

One great point in favor of the Western dairymen is the comparative low price of land, cows, food, building materials, etc. Striking a general average, and \$35 or \$40 per acre would buy all the lands occupied by dairymen in the Northwest; \$35 or \$40 is a good average price for the cows; \$10 per ton for the hay; 50 cents per bushel for the corn, which is much higher than usual; 80 cents for the wheat, with bran in proportion. Lumber for fencing and buildings is comparatively low-priced. I need not point out the fact that these prices counterbalance many obstacles. The increased cost of transportation is very slight. Butter or cheese can be shipped from the dairy regions of Illinois or Wisconsin to the seaboard for about one cent per pound. The very small proportion of waste-land is another great advantage.

My estimate for increased production of cheese in 1875 over 1874, should the season prove favorable, is about twenty percent. The butter product will be considerably increased.

The directions of increase will be both in the older dairy regions and in new fields. In the older regions there is a tendency to increased butter production in factories.



In the newer regions cheese-making will have nearly exclusive attention.

The factories in the Northwest are generally small. Probably not six have over 800 cows each; many not more than 150 to 200. As a rule the cheese-making season is short; in many factories not over four or five months. Naturally the length of season is increasing, and in the Elgin region a number of factories now work throughout the year, making butter and skim-milk cheese in the winter. The factory buildings are generally comparatively cheap structures; those lately erected better than the earlier ones, but smaller from the less need for extensive curing-rooms. Of the newer ones, many are owned by stock companies. Most of the milk is worked for the patrons for fixed prices, 1 3/4 to 2 cents per pound of cheese, generally the latter price. In the older regions the practice of buying the milk is growing more common. About half the factories make cheese on Sunday. Milk is almost invariably delivered once daily, the night's milk being cooled at home, in vats of cold water, in which the cans are placed. The practice and teaching is growing in opposition to sudden or extreme cooling. Skimming has been comparatively little practiced; less in Wisconsin than in Illinois. Like other modern "improvements", the practice is rapidly becoming prevalent; in Wisconsin more in the direction of partial skimming in the latter part of the season; in Illinois more in the direction of cream-eries and skim-milk cheese. The cheese made will average something less than 50 lbs. in weight, from 14 to 16 inches in diameter 7 to 9 inches in depth.

In mode of manufacture changes have been made in the





same general direction as in more Eastern regions. No special novelties have been introduced. The cheese are made to cure quickly, generally with special reference to supposed requirements of New York and British markets. Coloring is growing more common. Little is done in making cheese of different size or form than those in more common demand. Experiments are being tried in the way of making "full-milk" cheese out of skim-milk.

In butter-making there are few regular butter factories; those in which both butter and cheese are made are more common. The deep-can system of setting milk is in less favor than formerly, mainly because of great labor attending it. The tendency is now to the use of large pans or vats. One very successful factory still uses the common small tin pans.

Various devices for re-working butter, sometimes at depots in the country, but more generally by dealers and grocers, have been introduced, and much such butter has been shipped East. Unobjectionable when properly made use of, this practice has, by improper management of some engaged in it, done harm to the reputation of Western butter.

Going back to the farms, it may be said, that the dairy cows of the Northwest, as a class, are of fair average quality. of improved breeds, Ayrshire, Jersey, Holstein, and Short Horns are being tried, each having zealous advocates. The great majority of the cows are the so-called native, many of them, however, having very perceptible evidences of the blood of some of the animals named.

The advocates of high feeding are in the minority, but claim to have good reason for their faith and practice, as high





feeding is practiced by some as in part of the country. Feeding grain in some form is almost universal, and corn is largely used for this purpose. As help in time of drought in summer, green corn is preferred to any other plant. In the last few years there has been an increase of interest in the plan of having cows calve in the fall, which plan is very successfully followed by some buttermakers.

It should be borne in mind that comparatively few Western farmers are exclusively engaged in dairying. A very large part of the milk delivered at the cheese factories comes from farms on which grain is largely grown for sale. Most of the cows in the dairies are raised by their owners, although the practice of calves is increasingly common.

Abortion has become quite common near Elgin, Illinois within the last two years. The disease has not made its appearance save in exceptional cases in any other portion of the Northwest.

There are many dairies in the Northwest which return their owners not more than \$25 or \$30 per cow for the season. There are others which return \$100 or more each. Yields of 600 lbs. of cheese per cow are not uncommonly reported. One butter factory in Northern Illinois reports a yield of 221 pounds of butter per cow for the total of 336.

There is a steadily increasing home demand for cheese. The reputation for Western butter and cheese has much improved within a few years. Formerly there was much complaint of injustice by dealers in selling Western cheese as New York cheese. This has mainly passed away. The relations between Western dairymen and Western dealers are now quite as satisfactory as is to be expected.



The Western dairy Boards of Trade are yet young. That at Elgin has been quite successful. It holds meetings weekly; the sales are made in the board-room, and are regularly reported. The boards of Watertown and Sheboygan Falls, Wisconsin, have not been so successful as could be wished. They have been mainly used for consultation and arranging for consigning rather than for making direct sales. Considerable shipments of cheese have been made direct to Europe, with results about equal to those where sales were made at home. There is yet a wide field for Western dairymen in supplying the home and Southern demand, which can be greatly extended. As a rule the best butter made stays in the West.

We look with hope to the produce exchanges, and consider their organization in the East and in the West a matter for congratulation. Wisely managed they can do much good. The producer and the dealer can learn much from each other, and their relations should be amicable in the fullest sense. Feeling this, I regret that I must, in behalf of the association, which in some sense I represent, and, as I believe, in behalf of the dairy interests of the Northwest, enter my earnest protest against the action of the Butter and Cheese Exchange of New York. That Exchange has done a good work. I regret that, unintentionally as I believe, it has done and is doing, a wrong to the butter-producing interests of the West, by its arbitrary system of classification of butter into Eastern and Western, and quoting butter of a given grade at widely different prices, owing to the locality of production. I do not claim that Western butter is as good as it should be, or that, as a class, it is equal to that made in the





East, but I do claim that all butter, wherever made, should stand on its merits. As the case now stands, Western butter is classified as "Extra", and priced as "Seconds", or classed as "Firsts" and priced as "Thirds". If it be extra, it should sell for the same price as Eastern "Extras". If it be worth only as much as Eastern "Thirds" it should be classed as such. It is absurd to class butter under same name and with same definitions, and yet make such a difference of one-third or more in price.

Leaving very much unsaid concerning dairying in the Northwest, I have only time for a word as to the dairymen of that region. I find that they look much like the men before me; as they should, for many of them are your sons and brothers. All over the Northwest are men who look back with pleasure to a boyhood spent in what are now the leading dairy regions of New York and New England. They are equally proud of their adopted States. I am glad of this opportunity to have met you and tell you something of what we are beginning to do. We have no foolish notion that we have learned all that is to be known, We look with interest to the annual meetings of this association and to all your improvements, expecting to learn from you. Accept a cordial invitation to visit us at the approaching conventions in the West, when you will be welcomed to earnest and interesting meetings, and to hospitable homes. In the past we have learned from your Mr. Willard and others, who have helped us much. This year we expect to have with us your secretary and assistant secretary, but, well satisfied as we are with these as to quality, we will gladly have a much larger delegation.

The dairy interest of the Northwest is but in its



infancy; this is the day of small things with us, but there is abundant room for and promise of great growth. Today it seems scarcely worth while to take your time in telling you of what we have done, but let me predict as probable that within a few years many before me will attend a session of the American Dairymen's Association, held in Northern Illinois for greatest convenience to the greatest number, and perhaps have this talk recalled to them as they listen to a report of the dairy interests in Colorado or California.



Creamery Industry.

About 1870 the matter of establishing a creamery in Elgin began to be discussed to some extent. It was Dr. Joseph Tefft of Elgin who was instrumental in establishing the first creamery or butter factory west of the Lakes. Dr. Tefft was sent east to look up styles of buildings in use there. Upon his return a site was selected and what was known as the Elgin Butter Factory was built. They began taking in milk rather late in the season of 1870. Mr. J. H. Wanzer was engaged to superintend the manufacture of the butter and skimmed milk cheese. It was here with the help of some of the stockholders'wives that was made the first creamery butter west of the Lakes. The second season this factory made about 80,000 pounds of butter, 60,000 pounds of which went to the government through Richards and Good of Chicago.

Along with the great increase in the manufacture of skimmed cheese came a great increase in the manufacture of butter. Many of the factories made both butter and cheese.

The second creamery was probably that of J. Boies at Marengo. He began making butter in a small way and rapidly increased until he was operating a large number of factories.



J. Boies' First Creamery.





Many creameries then started throughout the Elgin district until in 1883 there were about 400 creameries and cheese factories in the state. In 1885 one of the first if not the first creamery in Southern Illinois was opened in the city of Sparta, Randolph County. When the first creamery opened it was anything but a promising outlook for the projectors of the industry, as it was only after earnest and repeated solicitations that the farmer could be induced to even make the experiment of hauling their milk to town.

The creamery industry increased rapidly until about 1898 when there were over 500 creameries and cheese factories. Conditions had changed Chicago and St. Louis along with many of the smaller cities and condenseries began to draw upon the milk supply. They paid a better price than the creameries could afford to pay.

The following table from the U. S. census shows the production of dairy products in Illinois:-

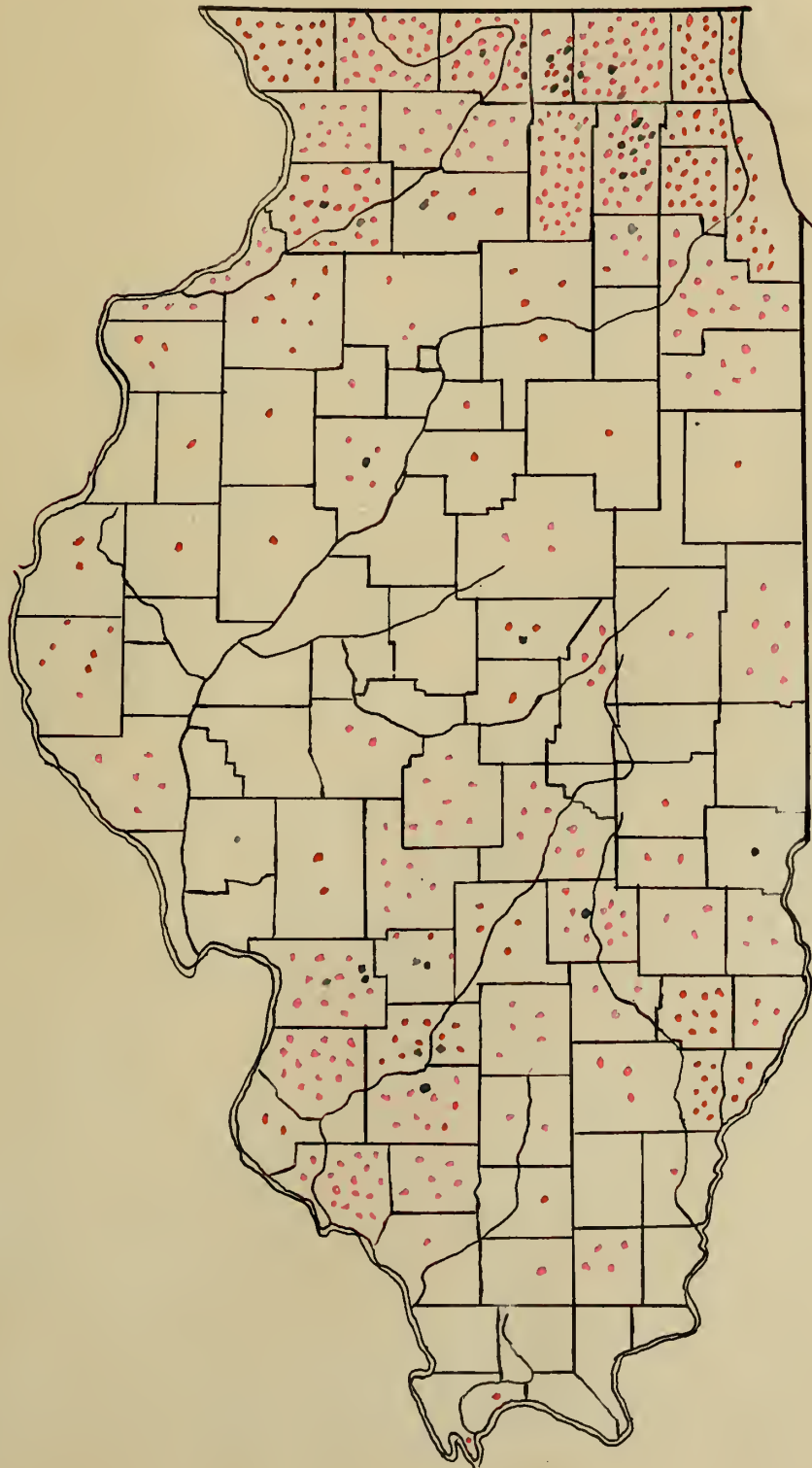
	No. of milch cows on farms	Milk gallons produced	Butter pounds made	Cheese pounds made	Total No. of farms
1860	522,634		28,052,551	1,848,557	143,310
1870	640,321	9,258,545	36,083,405	1,661,703	202,803
1880	865,913	45,419,719	53,657,943	1,035,069	255,741
1890	1,087,886	367,269,464	57,121,486	343,456	240,681
1900	1,007,664	457,106,995	52,493,450	323,485	264,151
1910	1,050,223				



Creameries and Condenseries in Ill., 1910.

Red dots - creameries.

Black dots - condenseries.

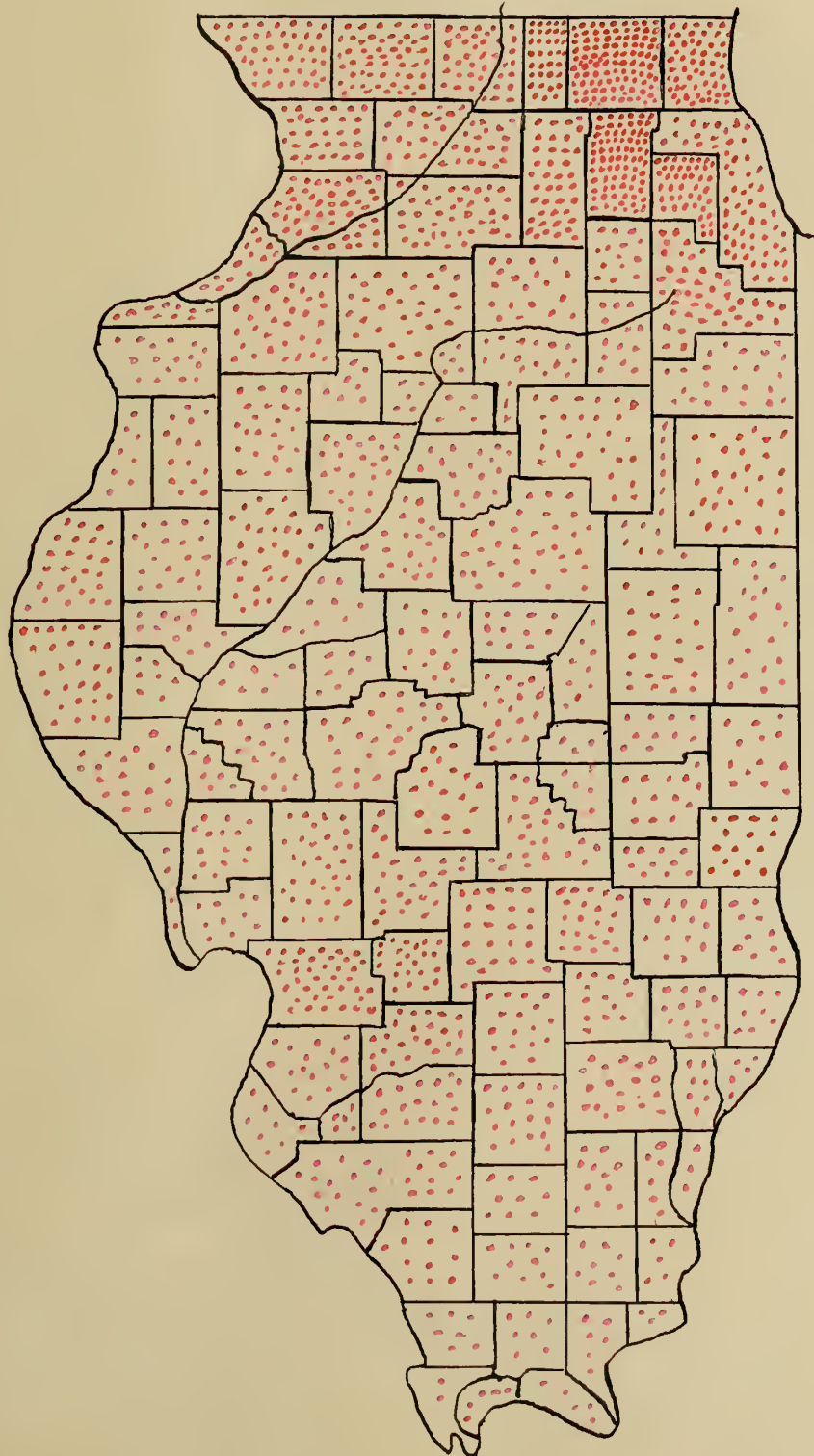






Dairy Cows in Illinois, 1910.

Each dot represents approximately 500 cows.





Elgin Monthly and Yearly Averages for 15 Years.

Month	1880	1881	1882	1883	1884	1885	1886	1887
Jan.	33 5/8	31 7/8	40 1/8	38 1/8	37 1/4	34 1/3	32 7/8	30 5/8
Feb.	34 5/8	32 1/8	45 3/4	39	33 3/4	34	33	27 3/4
March	34 1/2	32 3/8	40	31 3/4	35 1/2	28 1/4	31 1/4	31
April	25 1/8	30 5/8	36	27 3/4	28 1/8	25 2/3	28 7/8	25 1/4
May	21 1/4	22	25 1/2	22 3/4	21	22	17	19 1/4
June	19 5/8	20 1/2	24 3/8	21	20 1/8	17 1/8	16	18 2/3
July	23 1/8	21 5/8	23 3/4	20 3/8	19 1/2	17 1/2	18 1/2	20 3/8
Aug.	25 7/8	26 1/2	26	20 3/4	22 1/2	21 1/8	21 2/3	25 7/8
Sept.	29 1/8	32 2/3	30 5/8	27 1/8	26 1/2	22 1/2	25 3/8	23 5/8
Oct.	29	34 3/4	35 1/2	29 1/8	30 3/4	27	27 1/2	25 3/4
Nov.	33	36 3/4	37 1/3	37 1/4	29 2/3	28	27 5/8	29
Dec.	<u>34 5/8</u>	<u>41 1/2</u>	<u>41 2/3</u>	<u>38 1/2</u>	<u>30 5/8</u>	<u>38</u>	<u>30 3/8</u>	<u>31 3/4</u>
Yr. Av.	28 5/8	30 1/4	33 2/3	29 1/2	28	26 1/3	25 5/8	25 2/3
Month	1888	1889	1890	1891	1892	1893	1894	1895
Jan.	32 1/8	26 3/8	27 1/8	26 3/4	30	32	24 3/4	23.9
Feb.	29 1/4	29 1/3	26 3/4	28 1/4	24 1/4	27 5/8	26	22.9
March	29 1/2	26 1/4	24 1/3	31	28 1/8	27 7/8	21.8	18 3/4
April	25 3/4	24 1/2	18 1/2	25 3/4	22 1/3	29	20 1/3	19.4
May	22 1/2	16 3/8	16 3/8	22	18 7/8	22 3/4	16 1/2	17 1/4
June	19	16 1/2	15	17 3/8	18 5/8	19 5/8	17	17.6
July	19 1/8	15 7/8	16 3/8	17	20 1/8	18 1/2	18 1/2	17.4
Aug.	20	18	21 2/3	20 1/2	23 1/4	23 2/3	23 1/2	20.1
Sept.	23 1/2	23 1/8	22 1/2	24 2/3	25	27 1/4	24 1/8	21.2
Oct.	25 3/4	23 1/2	24 3/4	29 3/8	26 5/8	28 1/2	22 3/8	22.1
Nov.	34 2/3	25 3/8	27 1/2	28 1/4	30 1/2	26 1/4	24 3/4	22.3
Dec.	<u>32 7/8</u>	<u>27 1/2</u>	<u>28 1/3</u>	<u>28 1/4</u>	<u>30</u>	<u>27 1/2</u>	<u>23.8</u>	<u>24.8</u>
Yr. Av.	26 1/4	22 3/4	22 3/8	25	25 1/4	25 7/8	22	20.6



Elgin Monthly and Yearly Averages for 15 years.

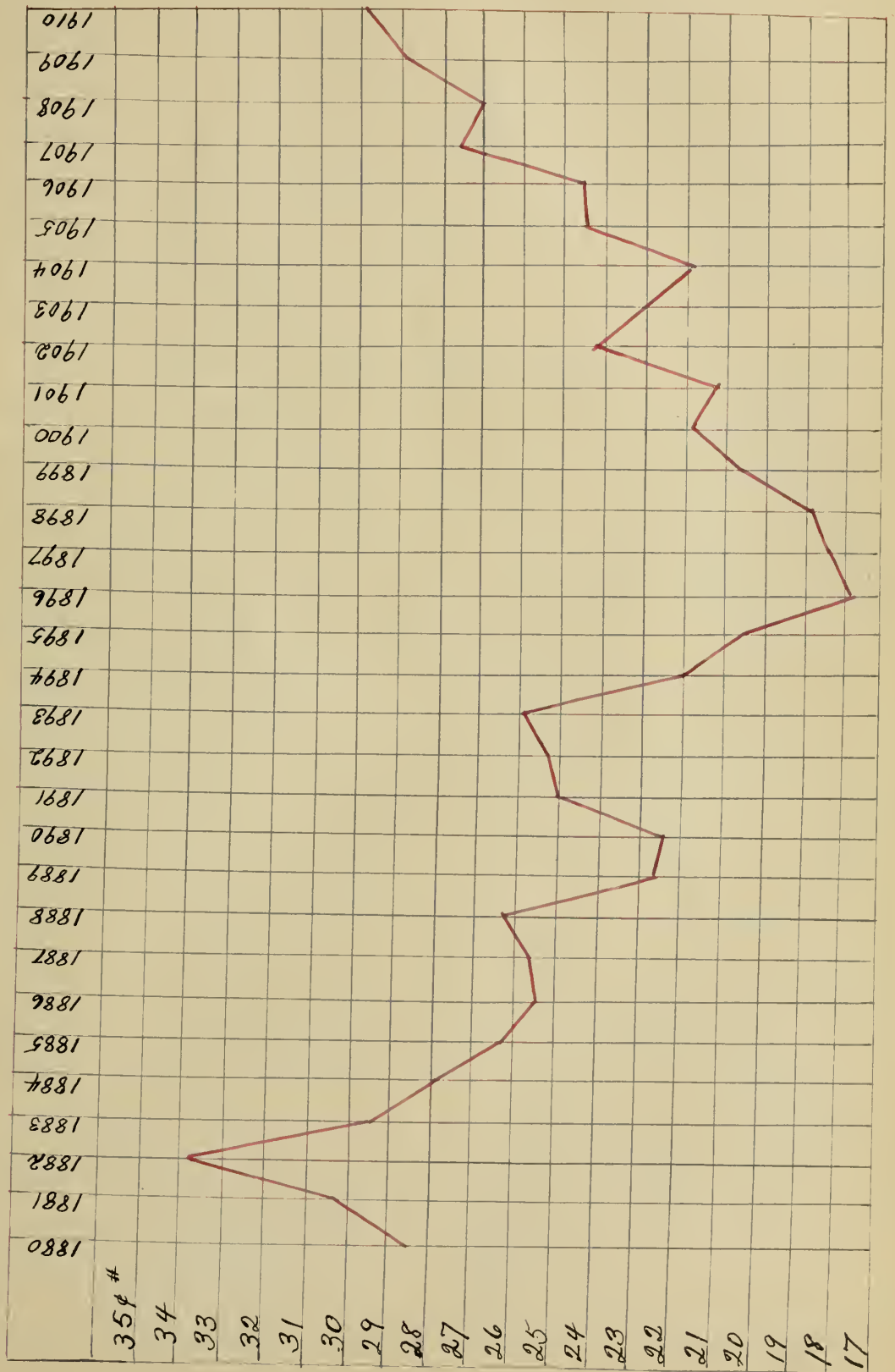
Month	1896	1897	1898	1899	1900	1901	1902	1903
Jan.	21 1/2	19 1/2	19.6	18.6	25 1/4	22	25 1/4	27 1/4
Feb.	19.3	20.2	19.6	21	24	21 7/8	27.3	25 3/4
March	21 1/2	19 1/4	18 3/4	20.1	24 1/8	21 7/8	26.8	28.1
April	15.6	17.2	18.6	19.1	19.3	20.3	24 1/4	25 7/8
May	15.9	14.4	15.8	16.9	19.5	18.5	22	20 3/4
June	14	14.4	15 7/8	18	18 7/8	18 3/4	21.5	21.1
July	14.7	14 1/2	16 1/2	17.8	19	19.4	20 3/4	19 5/8
Aug.	15 3/4	16 1/4	18.6	19.5	20 3/8	20.5	19.6	19
Sept.	15.3	19 1/8	19 1/2	22.1	21 1/8	20.6	21 3/4	20 5/8
Oct.	19.1	22 1/4	21.1	23.5	21 1/2	21 7/8	23 3/4	20 7/8
Nov.	20.4	22 1/2	22	25.4	24 1/4	23.5	25 3/4	23
Dec.	<u>21.4</u>	<u>21.6</u>	<u>20.6</u>	<u>26.3</u>	<u>24.7</u>	<u>24.5</u>	<u>28.8</u>	<u>24.5</u>
Yr. Av.	17.8	18.4	18.8	20.6	21.8	21 1/8	24 1/8	23.04

Month	1904	1905	1906	1907	1908	1909
Jan.	23	29 1/4	27	30 5/8	30 1/2	31 1/4
Feb.	25.1	32 1/2	27 3/4	32 3/4	32 5/8	29 3/4
March	24.5	27 1/4	27	30 3/4	29 1/2	29.4
April	23 3/4	29 1/8	22	30	28 5/8	27 1/2
May	19.7	22.7	19 3/4	23 3/4	23 3/4	25.2
June	17.5	20	19 7/8	23 1/8	23	25 3/4
July	17.1	20	20.3	24.5	22	26
Aug.	17.9	20 7/8	22.5	24.9	22.2	27.1
Sept.	19 3/8	20 7/8	24 3/8	28 1/8	23 7/8	30
Oct.	21.1	21.8	25.7	28 7/8	27 1/2	30 1/4
Nov.	25	23 1/2	27.5	26 1/4	29.4	31.2
Dec.	<u>26.9</u>	<u>24.8</u>	<u>31.1</u>	<u>28.3</u>	<u>30 3/4</u>	<u>34 1/2</u>
Yr. Av.	21.8	24.4	24.5	27 2/3	27	28.99





# Average Yearly Price Of Butter In Illinois





Condensed Milk Industry.

The history of experiments for condensing milk in America dates back to 1846. It became evident at an early date that if the water in milk could be eliminated, leaving the other constituents unimpaired so as to be easily kept for long periods, and then by the addition of water could be brought back again to its original consistency and flavor. To Mr. Gail Borden of White Plains, New York, must be awarded the credit of essentially accomplishing these results.

About 1849 Gail Borden began his experiments, simultaneously with others whose aim was the preservation of meat. About 1857 Mr. Borden put upon the market for city use what he called plain condensed milk. In 1861 he had quite extensively introduced his article and four or five factories were in operation capable of producing 5000 1 lb. cans per day.

The establishment of the Gail Borden Condensing Company in Elgin was the beginning of better things for dairying in Illinois and the whole northwest. In 18-- when Mr. Gail Borden selected Elgin as one of the points in the west where he would manufacture condensed milk he called a meeting of the farmers engaged in the dairy business, and told them what the requirements would be as far as the production of milk was concerned.

Cleanliness was the key; the great and underlying feature and the only means by which they could hope to compete in the markets of the world in quality, with Herkemer County cheese, and Orange County butter.

Sufficient encouragement was had at this meeting for him to establish a condensing factory at Elgin. The factory was





started, and from that day to this there has been a gradual increase in the condensing business until today Illinois leads in the production of condensed milk.

Seven Years Condensing Prices in Illinois.

Milk News.

The following prices are per hundred pounds net at condensery under contract period of six months, starting April and October, of each year.

Month	1901	1902	1903	1904	1905	1906	1907	1908
January	\$1.35	\$1.45	\$1.45	\$1.55	\$1.50	\$1.45	\$1.55	\$1.65
February	1.35	1.40	1.45	1.50	1.40	1.40	1.45	1.65
March	1.30	1.30	1.35	1.40	1.30	1.30	1.35	1.55
April	1.05	1.15	1.20	1.20	1.20	1.20	1.30	1.35
May	.85	.90	.95	.90	.90	.90	1.00	1.05
June	.85	.80	.85	.80	.80	.80	.90	.95
July	.80	.90	.95	.90	.90	.90	1.00	1.05
August	1.05	1.05	1.10	1.10	1.05	1.10	1.20	1.25
September	1.15	1.15	1.20	1.20	1.15	1.20	1.30	1.35
October	1.35	1.35	1.35	1.30	1.30	1.35	1.55	1.45
November	1.40	1.45	1.45	1.40	1.40	1.45	1.65	1.55
December	1.45	1.45	1.55	1.50	1.45	1.55	1.65	1.55



### Silos and Ensilage.

About 1850 m. Goffart. a member of the Central Agricultural Society of France, made some experiments in the ensilage of wheat at Versailles France. In 1852 he built four underground silos made of masonry and cemented. With many failures and at times partial success, he at last in 1873 discovered a method which overturned the whole system of stock feeding. He used the four silos during all of his experiments. The fault was not with the silos, but with the method of preparing and storing the ensilage. Success came to him when he discovered that by weighting the covering planks, his ensilage kept for an indefinite length of time.

The credit of first introducing the system into the United States must be given to Francis Morris of Oakland Manor, Howard County, Maryland. His attention was at first called to this system by a French newspaper sent to him in the early part of 1876. He built three brick silos each 25 feet long, four feet wide and ten feet deep. On Oct. 1st 1876 the fodder was packed in by tramping, then covered with boards which were weighted with stones.

The first silo was opened on Christmas day of 1876 and all the stock fed from it, most of them eating it readily, and preferring it to the best hay.

In 1877 Mr. C. W. Mills, a grain merchant of New York, built on his farm at Pompton, New Jersey, two silos of 600 ton capacity which he filled with corn and made a complete success of the system of ensilage without ever hearing of Goffart or Morris.



During the summer of 1880 Whitman and Burrel of Little Falls, New York, erected a large stock barn 92 x 36 feet and two stories high. They built on the hill side of the barn, opening into it, two silos each 27 feet long, 16 feet wide, and 20 feet deep. They held about 250 tons each. They were built of strong masonry, and roofed in with the barn. They fed their cows on ensilage all winter, using the following ration per cow: 65 lbs. ensilage, 4 lbs. middlings, and 1/2 lb. cottonseed meal per day.

Dr. John M. Bailey of Bilerica, Mass, built the first concrete silo in the United States in the summer of 1879. He received his inspiration from reading a translation of Goffart's story. He claimed that under this system milk could be produced for one cent per quart, butter fat for ten cents per pound, and beef for four cents per pound.

Probably the first silo in the Mississippi valley was built by Dr. Eager of West Point, Nebraska in 1880. He built four silos, each 60 feet long, 16 feet wide, and 20 feet deep with a capacity of 500 tons each. Dr. Eager thought ensilage was cheaper than prairie hay, at no greater cost than the cutting and stacking.

The honor of Illinois' first silo belongs to Oatman Brothers of Dundee, built in 1881. At the Eighth annual meeting of the Illinois State Dairymen's Association held at Dundee Illinois, December 14 - 16, 1881 Mr. E. J. Oatman read the following article on ensilage:-





Ensilage.

By E. J. Oatman, Dundee.

Mr. President:- This subject of ensilage, to which the writer has been assigned for this occasion, is one filled with interest, not only to the writer, but to every man, be he dairyman, stock raiser, or cotton grower, from one and all, this subject is demanding the closest investigation, for if the claims of its advocates can be substantiated, and the system proved practical for the masses, then we, as farmers, can no longer afford to while away our time on the present system of milk and stock productions. The possession of the mighty dollar being the stimulating power, which causes us all to labor so incessantly, it behooves us as a body, to enquire into our present system of attaining that point, and ascertain if we are wisely devoting the means within our reach to the accomplishment of the desired end. Realizing as we did that the net profit of our farm was not so good as we would wish, and not knowing just how to increase its returns, we were in a good frame of mind to receive the impression, which was given us, by a gentleman from the office of one of the papers devoted to Agriculture in Chicago, who, meeting us with the fabulous reports of results being reached in some parts of the eastern states at that time, 1879, through the medium of ensilage, at once "hit us hard in a weak place". This man used his best efforts to induce us to make our arrangements and go ahead and build a silo the coming spring. The story seemed too good to be true, and the idea of cutting up and paking away in a hole, green corn fodder, and expecting to see it come forth in first class feeding condition in the dead of winter, seemed to us



(like some of our good friends the past season hereabouts) to be an impossibility, it would heat, ferment, rot, &c, &c. A great many objections arose in our minds, and we refused to comply with the gentleman's request, at least until we knew more about it. We at once began watching the papers, and eagerly devoured every item relating to this, beginning to be interesting subject, and when we learned of the silo Messrs. Whitman and Burrell had constructed at Little Falls, N. Y. , the writer at once determined to see that silo, and its "cow krout" as some are pleased to term this most excellent food. Accordingly, during the last days of Feb. 1880, the arrival of the investigating committee from Dundee, composed of the writer and his traveling bag, was duly announced. Not many hours thereafter the silo was reached, and the first move made was to jump down into the capacious mouth of the same, bringing up on a section of ensilage, which was being taken out to be fed to the stock. Before leaving Messrs. Whitman and Burrell the Dundee committee was fully satisfied that ensilage was a success, at least with those gentlemen. Their cheese, butter, and milk, all produced from ensilage, with no other feed, except a small amount of oil, and corn meal were carefully examined, and all were of the finest quality. The fact that there was nothing to fear in the way of producing poor goods from ensilage, was here proved to the entire satisfaction of the committee. Adjournment to Dundee thereupon took place at once, and very soon after report had been made, it was determined to go on and build a silo as nearly first class, as our means and the material at hand would permit. Accordingly on the 28th day of June, 1881, after staking out our location 49 x 43 feet adjoining our barn at the north end,





we began excavating, using two teams, with plow and scraper, and after nearly 3 weeks work we had the satisfaction of knowing, we were ready to begin the building of the walls. Concrete having been decided upon for the construction of the same, the proportions to be one part water lime, to seven parts coarse gravel, the latter containing sand in sufficient quantities to cause the quick and firm cementing of the particles. To build the walls and hold the concrete in place while setting, we proceeded as follows, wishing to make the silo 20 feet deep, we placed 2x4 scantling 22 feet long at intervals of four feet all along the outside of the walls and across the ends, staying them securely in a perpendicular position by braces from each. Wishing to have the outside walls 18 inches thick, we placed a second row of scantling all around inside the others, 22 inches from them, these were also securely braced, that there might not be any springing, 2 inch plank 12 inches wide were then placed inside the framework, all around on each side, ends being squared so they would fit closely, thus forming a continuous box 18 inches wide around the outside of the silo. Wishing to divide area into 3 compartments, we arranged for two cross walls in the same manner, only making these latter 2 feet in thickness. We were then ready to begin the work of filling the boxes with concrete, these were filled during the day all around, the concrete being made a little softer than ordinary stone mortar. After filling, the plank were allowed to remain in place until next morning, when they were raised up their width, allowing only one inch to lap on the wall below, the box was then filled all around as on the first day, this operation being repeated day after day, raising the wall nearly one foot



per day all around, and including the cross walls. The walls were finally completed after having used 537 loads of gravel just as we took it from the pit, and a few barrels over 3 car loads of Utica cement. After the walls were up, they were treated to a coat of plaster on the inside, made of cement and sand, to even up the surface and make it smooth, that there might be as little resistance as possible to the settling of the silage. The bottoms were finished by giving them a three inch coat of concrete, then a plastering coat over that, this finished the inside work, and by this time the corn in the fields had passed the proper point for cutting, by full three weeks, much of it having dried up at the bottoms, while in some cases it was dry more than half way up the stalk, with this condition of corn we were very anxious to begin cutting, and as soon as the walls had become sufficiently dry, placed the cutting machine, and set the power in place. We then attached a carrier, identical in construction with the straw carrier of a threshing machine. We then began the work of cutting the corn, using a Champion reaper, to cut and rake off in bundles. Two men were placed in the field to assist the teamsters in loading, and with the aid of two teams to draw, we were able to put through the machine an average of 23 tons per day, cutting into lengths of about one-half inch, the fodder being dropped at the center of silo was spread evenly over the bottom by two men, who kept up a continual tramp to compact the fodder as much as possible. A force of about ten hands were employed in the ensilaging of the corn. In 13 days from the time of beginning, the cutting was finished and the silo full, a little more than even with the top. It was then ready to receive the





cover, which was made from 2 inch plank grooving, and matching, and putting them together in sections about 4 feet wide, with 3 battons made from 2x4 scantling, projecting 6 inches each side of the cover, that though these bearings all might settle together as though one entire cover, the lengths were cut short enough to rest directly upon the ensilage, with play of ends sufficient to permit settling and not binding on the walls. When put in place, a weight of one hundred and fifty pounds stone, per square foot was placed upon it, and we had nothing to do but await the proper time for opening it. In the mean time many discouragements had to be met; seemed as if the community at large had constituted themselves a committee to throw cold water upon our efforts, by speaking and looking their disbelief in the success of our efforts, it was too preposterous, cutting up a huge pile of green corn, nonsense, and nothing but failure could come of it. This seemed to be the opinion of many, while a scattering few offered encouragement through their "I hope you will come out all right and if you do, and it proves practical, and you say, I shall go into it". Still another was met who wished it might be a failure, for to succeed would be to place the power of greater, and largely increased production of milk in the hands of all, and the then present, what was called low price of milk be driven as a result still lower, and of all the interested parties hereabouts, not one could be found who would say they believed we should accomplish our end. One good meaning friend asked but a few days previous to the opening of our silo "what are you going to do for feed for all that stock on your farm; you have nothing to count on but your corn stalks and hay, and that is not sufficient, that





pile of ensilage will make you a big pile of manure to be sure, but will not be of any good as feed, it will all be rotten." All this experience did not shake us in the least, from our opinion of coming success, and feeling thus we could well afford to bear the adverse criticisms of our <sup>well-meaning</sup> friends and neighbors, and when the continuous rains of the past fall set in. and nearly, if not quite, ruined a large per cent of the corn fodder standing in shocks in the field, we could not quite help exulting just a little, over the fact of our safely stowed away ensilage. Something like 225 tons being well housed and secure from all damage by rain, be it much or little; this being the first point proved to us, in favor of ensilage over out door fodder.

Let us here turn back to our subject proper, assuming the time taken since we left our silo covered and weighted, to carry us to the time of opening, when we were to ascertain whether our investment was to prove a failure, and our cherished hopes blighted. The long continued rains and unfavorable weather had caused a heavy falling off in the yield of milk from our dairy, when on the 2nd day of Nov. we concluded to remove a section or two of cover and see what we should see. The stones were removed, and the covers lifted, and the ensilage revealed. It had changed in color from the bright green put away, taking a more brownish cast, and emitting a pleasant acid smell. The juices seemed to be as when put away in quantity, but slightly impregnated with acid. The ensilage taken into the mouth and chewed, left a very pleasant acid taste, the fodder had kept perfectly, (as compared with the only samples the writer has ever seen) clear up to the cover and out to the sides, excepting



a small quantity at each side of the silo, where the rain had fallen upon the cover and been directed to the outside ends, by the settling at each end more than in the center, through weighing there and not in the center. Let it be here stated that at the time of filling the silo the building now covering the same had not been erected, owing to inability to secure mechanics in time, and the weighting was being done, when a heavy shower rain came upon us. The ensilage was at once taken out and fed to the cows, nearly all at once diving into it as though it always had been their ration, and they had waited a long time for it, there were a few exceptions, perhaps a half dozen, which did not take kindly to it at first, but during the day, all ate their allowance clean, and ever since, no feed we have ever used has been so eagerly sought after, or so cleanly eaten up. The shrinkage which was taking place daily in the milk was at once checked, and in a very short time the flow increased one can per day, the cows getting no feed but the ensilage and one small ration per day of hay, with a small amount of ground feed. That the cows are thriving upon ensilage, after having had that for nearly six weeks for their principal ration, can be easily seen by anyone taking the pains of visiting our farm and looking them over.

The corn was drilled in rows 23 inches apart, the ordinary white corn of the country being used, and owing to circumstances over which we have no control, the yield was extremely light, one piece of 8 acres giving an average of 14 tons, while the general average was but 10 tons per acre, being not to exceed a 1/3 of a good crop, this small crop may be traced to several sources, first, to planting the wrong variety of corn;





secondly, to continual rains preventing any cultivation whatever, and thirdly to the severe drought following closely upon the heels of the rains, the latter cutting off the growth, and leaving some not over three feet high. The experiment of the past season in the east has shown, that when the northern varieties of corn had been planted, the severe drought caught and stunted it in growth - while the southern varieties, coming from as far south as could be obtained, were just in their element, surrounded by the extreme heat, and shot up and enormous growth, giving large yields, while the northern varieties gave but a poor return - to the ensilageist here lies a vital point, which may not be overlooked while searching for means to obtain large yields of fodder.

In conversation with our friend A., today, on this subject of the value of our new feed, he remarked he was afraid the cost of putting this fodder into ensilage and housing it up in a silo at a time of year when help was high and scarce - which nearly always meets us at the time we want to do this work - would overcome the profit in the venture. Let us look into the matter a little and see if we can ascertain the facts. We will not take any suppositious case, but will take the experience with which we have been met in our own transactions, unfavorable as they have been when taken in comparison with good average results with others. The average yield of hay on our farm has been one ton per acre this season, as nearly as can be computed without actual weight. The cost of harvesting and putting this hay in the barn was \$2.50 per ton, counting men's time at \$1.50 per day, and the same for the teams. Allowing \$10 for the valuation of the hay, we have a net profit per acre of \$7.50. Now, assuming the



statement of numerous gentlemen who have fed ensilage for more than one season to be correct, "that two tons of maize ensilage is equal in value to one ton of first quality tame hay feed," we have from our field the present season an average of ten tons of ensilage equal in value to five tons of tame hay, at \$10 per ton, equals \$50, less expense of putting ten tons ensilage in silo, \$1.00 per ton, \$10, we have a net of \$40 to offset our hay profit of \$7.50. We say nothing in this case of the increased flow of milk, which is universally testified to by feeders of perfect ensilage, over the yield from hay. But, says my friend, you do not give a fair average of results in this showing. I admit I have not, and will take the actual result obtained in the east last year and give another showing and see how we come out. Mr. B. had one hundred acres meadow from which he cut two tons per acre, worth \$2000.00; less cost of cutting and putting away, (estimated,) \$400.00; leaving a net of \$1600.00. The average yield from his eight acres of corn, devoted to ensilage, was twenty-eight tons per acre, equal to fourteen tons tame hay, for feed, worth \$140.00; less cost of putting up twenty-eight tons, \$1.25 per ton, \$35.00, leaving a net of \$105 per acre, to be offset by his hay product of \$16.00. I have no doubt some of my hearers may be inclined to give a prolonged whistle at the expense of this statement; but gentlemen, I pray you do not whistle until you get out of the woods - for even larger results than this can be shown from the books of not one man alone, but a large number. The facts vented in last statement were given the writer by the gentleman who had the experience, and as he is a man of note, largely known through this section, we have every reason to believe





them correct. The ground upon which the ensilage corn was raised on our own farm the past season was plowed immediately after the corn was removed and sown to winter rye. This crop is to be cut early in the season and ensilaged, the cutting to be done when in the blossom. This feed we look to for holding up the flow of milk during the shortage of pasturage, which nearly always comes at some time during the season, and results generally in a serious shrinkage of the milk product. The removal of this rye takes place in ample time to permit planting the usual crop of corn for ensilage, which, by dressing the land with manure in the fall, will be ready to cut before time to begin the fall cutting of field corn, and give a full crop. Through the aid of these two crops we expect to be able to keep up an even flow of milk at a very much reduced cost for the entire year, and thus add a large profit to our business over the present system of producing milk. The farmer raising ensilage has no need for hay to feed his stock. Every spear raised may be turned into money, using only the straw and dry corn fodder to furnish change of food. Many instances appearing where farmers have fed entirely on ensilage for fodder, giving but a small ration of ground feed in connection, and meeting with perfectly satisfactory results in all regards. We have the testimony of one man who had, for long years, fed his stock upon tame hay, with a ground feed in addition, at a cost of one hundred to a hundred and fifty dollars per month for the latter, who finally built a silo and filled it with ensilage, and after having fed his milch cows and young stock for three months on nothing but ensilage, says: "My stock today are certainly in as good condition, if not better, as any winter in twenty years when I fed the grain and hay combined. The flow of milk is





fully up to the standard of any period under the old system of feeding".

In selecting location for your silo, choose that spot which will best suit the convenience of your business, always striving to have both as near the barn as possible. Look closely to the drainage; if a gravel hill can be had you have the best possible natural location; if none such are at hand and you do not find gravel at the bottom of pit, dig a ditch one foot deep all around your walls, and fill with cobble stones; then lead same into a well or sink, also filled with stones. Be thorough in this as in all your operations connected with ensilage and silos, bearing in mind the governing principle, for the preservation of green foods, to be the exclusion of air, and if the work be so imperfectly done as to admit water into the silo, air will also be there, and where these exist decay takes place.

Silos       Silos may be built from stone, brick concrete, or wood; may be a ditch in the ground, an airtight box, or any receptacle which will permit of a descending weighted cover and be airtight. One man speaks of running a partition across one end of his basement, making it double with matched flooring, with building paper in between, running the walls above floor of bay as high as desired, cementing the bottom and painting the joists inside. In this way a capacity of 200 tons was supplied, and at the trifling cost of \$50 money out. I will not go further into detail of these cheap silos, as you may read of them all in any of the works devoted to ensilage.

The entire cost of our own silo which, as before mentioned, was built of concrete and covered with a frame building, with side walls eight feet high, shingle roof, roller doors, and



every requirement needed to make all first-class, may be stated as follows:

Doing the excavating	\$165.92
Labor in building the walls, including putting up and taking down scaffolds and staging, drawing	729.34
552 loads sand and gravel, and all the mason work	729.34
Paid for lumber and cement	<u>781.06</u>
	\$1,676.32

This amount includes full pay for all time of men and teams of the firm at full wages, and painting silo, and in fact covers all outlays to date.

In closing this paper, the writer would call the closest attention of any intending to build silos and plan for same, to the following points, all of which are of vital import to the success of the undertaking: In building do not be afraid of a little outlay; make the structure strong and durab, bearing in mind that if imperfect or partially preserved ensilage be good, perfect is better, and if your silo be made from stone, brick, or concrete, you will have a permanent one which will keep the fodder in perfect condition indefinitely; while a common affair may do after a fashion for awhile, but will never give best satisfaction. "What is worth doing at all is worth doing well", should here, of all places, be borne in mind. Build early. Do not wait until so late that your corn gets beyond the proper time for ensilaging. We began June 28th and were three weeks too late for our best interests. Note this carefully.

In planting, plant early from some of the large southern varieties of corn, which will produce half more fodder than any of





our home grown sorts; plant in drills, dropping about four kernels to the foot, planting two rows four inches apart; then skip 28 inches. This system gives largest yields per acre of any yet tried among oldest ensilageists. Cut the corn when it is in blossom, it being at that time supposed to be fullest of juice. Carry to silo as fast as cut in field and run through machine, made for the purpose, and cut into lengths not to exceed half inch; bear this point of length of cut particularly in mind, as many partial and entire failures have resulted from failure to observe due caution here. Cut fast, filling at least two feet per day in the silo - the faster the better. Keep the cut fodder trampled as well as possible, using great care to have next to walls thoroughly packed or tramped. Horses may be used for tramping, or one or two men constantly walking over the mass, while keeping it evenly distributed over the bottom will do very well. Fill the silo three to five feet above top of walls (by using temporary curb of wood) that the walls may be full to top after compacting has taken place. Place cover, made as before described, upon the cut fodder immediately after being filled and put on one hundred and fifty pounds stone to square foot. Corn cut while at right stage of growth, cut fine, silo filled five or more feet per day, and covered and weighted as above will produce ensilage sweet as the day it was cut, and without acid.

In concluding, allow me to say that we feel certain no dairyman, in particular, can afford to be without a silo, and we believe the day not far distant when the exception among wide awake, practical dairy farmers will be the one who does not rejoice in the possession of a large enough and well filled silo.



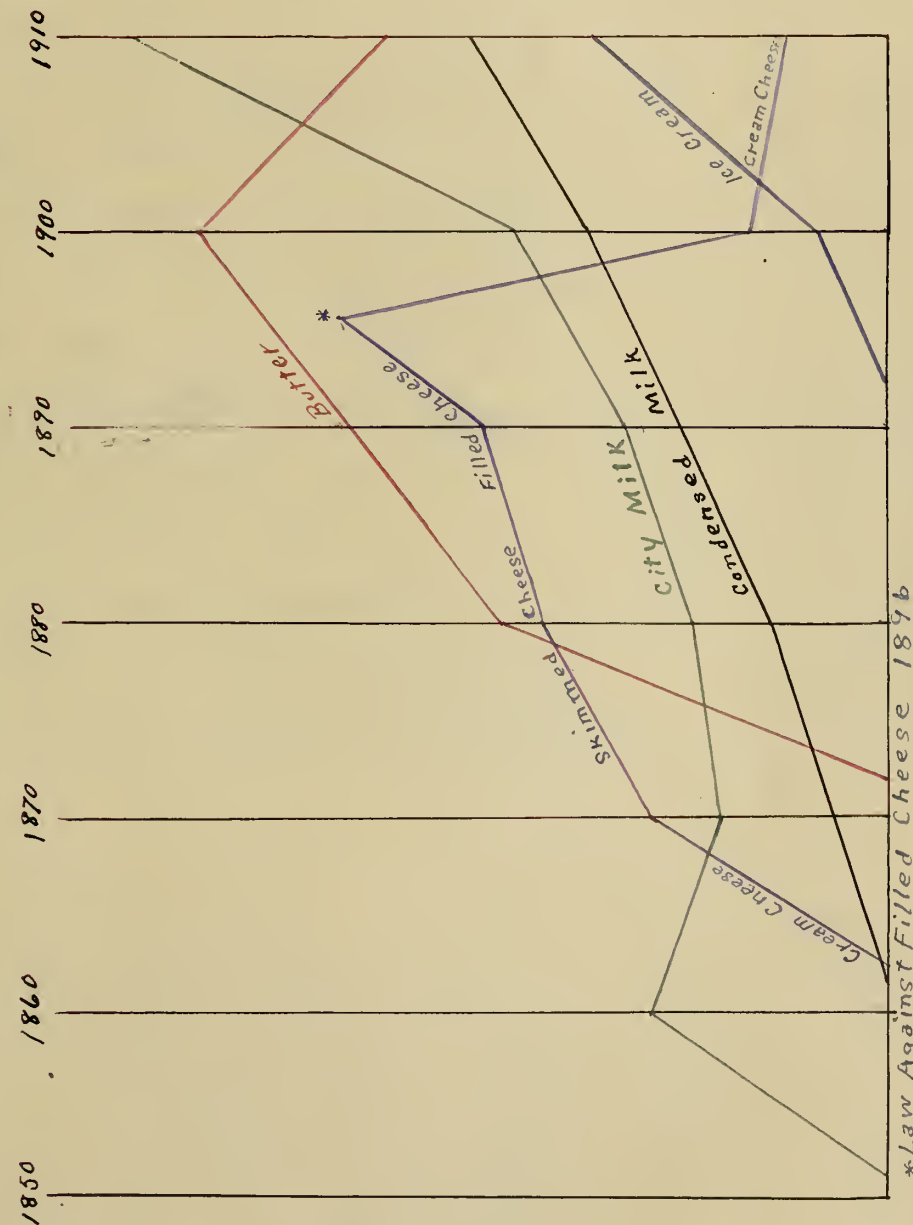
The early silos were of brick or stone with cemented waterproof walls and the bottom being wholly or partially underground. It was soon found that ensilage could be preserved in wooden silos and above the ground. The former kind of silo was more or less expensive and beyond the reach of many. The latter kind costs but little and is within easy reach of the average dairyman.

The first silo in Southern Illinois was built by L. A. Spies at St. Jacob about 1887. Probably the first round silo in the state was built by H. B. Gurler at De Kalb in the early nineties. This was the type of silo that still bears his name. Mr. H. B. Bowen of Belvidere built a round silo about 1894. The introduction of round silos was slow because people thought they were too hard to build and would easily get out of repair. As soon as they were found to be practical, many patent silos were put on the market. Today a person would have to go a long ways to find a silo that is not round.



# Chart Showing The Development Of The Dairy Industry

## In Illinois. 1850 - 1910



\*Law Against Filled Cheese 1896

This Chart Is Not Based On Statistics





Illinois State Dairy~~men~~'s Association.

In accordance with a resolution passed at the Northwestern Dairy~~men~~'s Association at Woodstock, a meeting of dairymen was held at Aurora, March 3d 1874, to organize a state association. A temporary organization was effected. A committee consisting of D. F. Barclay, of Elgin, H. W. Mead, of Hebron, and D. G. Eldridge of Eola were appointed to draft the constitution, which was adopted in the afternoon.

It was decide that the annual meeting be held on the second Thursday of December of each year. Asecond meeting was held in Aurora in September 1874 but failed for lack of attendance there being but three or four present. It was adjourned to Wednesday, Dec. 30th, 1874, and to be held in Elgin. At this meeting there was good attendance and the Illinois State Dairy~~men~~'s Association was firmly established. They have published an annual report every year except 1892 and 1893, when the state refused to appropriate any funds for the Dairy Association. Every year since 1884 except the two mentioned above the legislature has appropriated money to publish the proceedings of the Dairy~~men~~'s Association.



Illinois State Dairymen's Association.

Date	Place of Meeting	President.	Secretary.	Treasurer.
1874	Elgin	J. R. McLean	D. G. El-	H. W. Mead
		Elgin	dridge, Eola	Hebron
1875	Elgin	"	M. H. Thomp-	"
			son, Elgin	
1876	Elgin	Dr. Joseph	"	"
		Tefft, Elgin		
1877	Elgin	"	"	"
1878	Elgin	"	"	"
1879	Marengo	"	"	R. M. Patrick,
				Marengo.
1880	Marengo	"	W. J. Ander-	"
			son, Elgin	
1881	Dundee	"	R. P. McGlin-	"
			cy, Elgin	
1882	Sterling	"	"	"
1883	De Kalb	"	"	J. F. Coe
				Sterling
1884	Champaign	"	"	J. H. White
				Aurora
1885	Belvidere	H. B. Gurler	"	"
		De Kalb		
1886	Aurora	"	"	"
1887	Mt. Carroll	Lovejoy John-	"	"
		son Stillman		
1888	Springfield	"	R. Lespinasse	"
	Jan.		Chicago	
1889	Belvidere	"	"	"
1890	Ashley	"	"	"
	Dixon, Jan.			
1891	Kewanee	"	"	"
	Feb. 1892			
1892	Sycamore	"	W. R. Hostetter	"
	Jan, 1893		Mt. Carroll	
1893	Dixon	"	"	E. E. Garfield
	Feb. 1894			St. Charles
1894	Rochelle	John Stewart	"	"
	March 1895	Elburn		
1895	Princeton	"	"	"
	March 1886			
1896	De Kalb	George H. Gur-	E. E. Critch-	Joseph Newman
	Feb. 1897	ler, De Kalb	field, Chi. Elgin	





Date	Place of Meeting	President	Secretary	Treasurer
1897	Red Bird <i>Bud</i>		J. H. Monrad	
	Jan. 1898	"	Winnetka	"
1898	Galesburg	"	"	"
	Jan. 1899	"	"	"
1899	Belvidere	"	Leo Caven	"
	Jan. 1900	"	Chicago	"
1900	Aurora	"	"	H. H. Hopkins
	Jan. 1901	"	"	Hinckley
1901	Freeport	Joseph Newman	"	"
	Jan. 1902	Elgin	"	"
1902	Urbana	"	"	"
	Jan. 1903	"	"	"
1903	Greenville	"	"	"
	Jan. 1904	"	"	"
1904	Rockford	"	"	"
	Jan. 1905	"	"	"
1905	Effingham	"	"	John Coolidge
	Jan. 1906	"	"	Galesburg
1906	Joliet	L. N. Wiggins	"	"
	Jan. 1907	Springfield	"	"
1907	Marengo	"	"	Adolph Meyer
	Jan. 1908	"	"	Greenville
1908	Clinton	"	"	"
	Jan. 1909	"	"	"
1909	Vandalia	"	"	Chas. Foss
	Jan. 1910	"	"	Cedarville
1910	Elgin	"	"	"
	Jan. 1911	"	"	"











UNIVERSITY OF ILLINOIS-URBANA



3 0112 086827182